5 805
R

Chem

ARMED FORCES CHEMICAL JOURNAL

THE LIBRARY OF THE
NOV 17 1950
UNIVERSITY OF ILLINOIS

JULY
1950

DISTRIBUTION—where it does the most good...

Little Johnny's trip to the woodshed proves an important point of business economics—that good distribution in the right place at the right time gets results. With industrial chemicals it means ability to serve your customers faster, smoother, more economically.

To do this, General Chemical has concentrated more than 90 producing and distributing facilities in America's centers of commerce. Here is a vast supply line of basic industrial chemicals from coast to coast. For 51 years it has supplied America's leaders; draw upon it for your needs, too.

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston Bridgeport • Buffalo • Charlotte • Chicago • Cleveland • Denver Detroit • Houston • Jacksonville • Los Angeles • Minneapolis New York • Philadelphia • Pittsburgh • Providence • San Francisco Seattle • St. Louis • Wenatchee and Yakima (Wash.)
In Wisconsin: General Chemical Company, Inc., Milwaukee, Wis.
In Canada: The Nichols Chemical Company, Limited
Montreal • Toronto • Vancouver

51 YEARS OF SERVICE
BASIC CHEMICALS
FOR AMERICAN INDUSTRY

ACIDS • ALUMS
SODIUM COMPOUNDS
PHOSPHATES
FLUORINE DERIVATIVES
OTHER INDUSTRIAL CHEMICALS
REAGENTS
FINE & SPECIAL CHEMICALS

ARMED FORCES CHEMICAL JOURNAL

OFFICIAL PUBLICATION OF THE ARMED FORCES CHEMICAL ASSOCIATION
ROOM 523, 1129 VERMONT AVE., N.W., WASHINGTON 5, D.C.

VOLUME IV | JULY, 1950 | NO. 1

The Armed Forces Chemical Journal is the official publication of the Armed Forces Chemical Association. The fact that an article appears in its columns does not indicate the approval of the views expressed in it by any group or any individual other than the author. It is our policy to print articles on subjects of interest in order to stimulate thought and promote discussion; this regardless of the fact that some or all of the opinions advanced may be at variance with those held by the Armed Forces Chemical Association, National Officers, and the Editors.

NATIONAL OFFICERS OF THE ARMED FORCES CHEMICAL ASSOCIATION

Honorary President
MAJ. GEN. ANTHONY C. McAULIFFE
Chief, Cml.C.
Washington, D. C.

President
DR. WALTER E. LAWSON
Wilmington, Del.

First Vice President
COL. L. W. MUNCHMEYER
Binghamton, N. Y.

Second Vice President
DR. RALPH CONNOR
(Chairman of Finance Committee)
Philadelphia, Pa.

Third Vice President
HOWARD S. McQUAID
(Chairman of Membership and Organization)
Wilmington, Del.

Fourth Vice President
GEORGE O. GILLINGHAM
(Chairman of Publications Committee)
Washington, D. C.

Fifth Vice President
ROBERT T. NORMAN
(Chairman of Meetings and Conventions Committee)
Washington, D. C.

Sixth Vice President
BRIG. GEN. E. A. MONTGOMERY (Ret)
(Chairman of Research and Development Committee)
Washington, D. C.

Seventh Vice President
L. DOUGLAS WEIFORD
(Chairman of War Mobilization Planning Commitee)
New York, N. Y.

Immediate Past President
COL. HARRY A. KUHN, USA (Ret)
Washington, D. C.

Secretary-Treasurer
FRED M. JACOBS
Washington, D. C.

General Counsel
MAJ. CHARLES E. PLEDGER, JR.
Washington, D. C.

Editor
CAPT. M. H. MANCHESTER, SS-Res.
Washington, D. C.

Associate Editor
COL. L. WILSON GREENE, Cml.C.-Res.
Army Chemical Center

COVER PHOTO

This month's cover features AFCA's President, Dr. Walter E. Lawson. A biographical background resume of Dr. Lawson will be found on page 9 of the Armed Forces Chemical Journal.

INDEX

News of the Services 2

AFCA's Fifth Annual Meeting...A report from Virginia Beach 4

Directors-at-Large 5

Annual Report of President .....*By* COL. HARRY A. KUHN 8

AFCA's President .....A Journal biographical review 9

Symington of NSRB .....A Journal Staff Report 10

I Saw My Country Sovietized .....*By* ARNOLD PURRE 12

Unification .....An interview with Hon. Marx Leva 18

Atomic Energy Indoctrination .*By* COL. DONALD H. HALE, CMLC 22

Group and Sustaining Members, AFCA 23

Twelve O'Clock Noon .....*By* LELAND I. DOAN 24

We've Been Asked 26

News of Industry 27

Chemical Corps Key Personnel 29

Trends in Military Research and Development .....
.....*By* SECDEF LOUIS JOHNSON 30

Physics in the USSR .....*By* COL. DONALD H. HALE, CMLC 34

AFCA Financial Statement 35

AFCA Membership Activities .....Purdue Chapter 36

AFCA Awards .....A pictorial report 37

Published quarterly—January, April, July, October—by the Armed Force Chemical Association, located at National Headquarters, Armed Forces Chemical Association, Room 523, 1129 Vermont Ave., N.W., Washington 5, D. C. Entered as second class matter at the Post Office at Washington, D. C., under the Act of March 3, 1879. Additional entry at Nashville, Tenn. Subscription price $2.00 per year to members; $4.00 per year to non-members.

CHEMISTRY LIBRARY

NEWS OF THE SERVICES

Utilizing R&D Officers

In those military districts where there is a sufficient number of Reserve officers holding mobilization designations (research and development) the chief of the military district will form one or more mobilization designation detachments (research and development). In those military districts where there is a sufficient number of Reserve officers who do not hold mobilization designations and who are professionally qualified to engage in research and/or development, the military district chief may recommend the formation of one or more Organized Reserve research and development units (tng).

Reserve officers desiring assignment or attachment to an Organized Reserve research and development unit may make application to the commanding officer of an appropriate Organized Reserve research and development unit; or, if there is no unit yet established, to the cheif of the military district or unit instructor. (SR 140-190-2, 1950)

* * *

Munitions Board Reorganization

With an aim to regroup all functions having primarily industrial aspects under a Director of Production Management, and all functions concerned with procurement and distribution under a Director of Supply Management, a reorganization plan has been effected within the Munitions Board.

The new plan, which was developed in cooperation with the Department of Defense Management Committee, is designed to meet special needs of the Board and to provide it with a more effective working line-up.

Maj. Gen. A. B. Quinton, Jr., USA, formerly Acting Director of Industrial Programs, becomes Acting Director of Production Management, with the discontinuance of the former title. The plan calls for eventually filling the permanent post of director with a civilian with wide industrial experience. The acting director then would become military advisor so as to provide a balance between civilian and military experience in the industrial programs of the Board.

Other "regroupings" include: Under the new Production Management Directorate comes the Offices of Production Planning, Materials Resources, Construction and Manpower. In addition the former permanent secretariates of the Munitions Board Committees on Aircraft, Petroleum, and Electronics are given status as Divisions, and placed under the Director of Production.

* * *

Contract Renegotiation

A numerical list of Army, Navy and Air Force contracts which are subject to renegotiation, has been issued by the Military Renegotiation Policy and Review Board, Department of Defense.

Included in the list are contracts containing the renegotiation article which has been entered into by the military services through Dec. 31, 1949.

Copies of the list may be obtained from the Supt. of Documents, GPO, Washington 25, D. C., for 25c each.

* * *

New Look Combat Boots

The Army is preparing to give a new look to remaining stocks of World War II combat boots by adding a plastic coating which will improve appearance and make them more resistant to water. The coating, of acrylate plastic, contains no inflammable solvents and application is made without heat. Approximately 2,000,000 pairs will receive the new plastic finish.

* * *

Dehydrated Soup

A new type of dehydrated soup for Army use that requires no cooking and may be easily prepared by individual soldiers separated from their commands has been developed by the Army Quartermaster Corps.

The new soup, processed from peas, can be poured into hot water, stirred for a few moments, and is then ready to eat. In laboratory tests it has been found that the dehydrated soup compares favorably in flavor, consistency and texture with pea soup prepared by long cooking.

* * *

CD Aircraft Observation

Selection of 9000 observation posts has completed the first phase of the Nation's civilian defense program. The observation posts, to be manned by trained civilians in event of air attack, are located approximately eight miles apart and are scattered through 25 States covering generally the northern half of the United States and the East and West Coasts.

Each post is to have a chief observer, two assistant observers, and 20 other civilian volunteers to make certain that it could be manned 24 hours a day if necessary.

The program is civilian—operated and manned, but the volunteers will be trained by the Air Force which also coordinates the program with State Governors.

* * *

Conservation Corps Bill

Creation of a postwar civilian conservation corps is being studied by a subcommittee of the House Public Lands Committee. The bill (HR 7462) should it be approved by Congress calls for utilization of Reserve Officers in the administration of the Corps calling for 500,000 enrollees.

* * *

Decoration Limit

The President has signed Public Law 501, 81st Congress, extending for one year the period during which recommendations for decorations for individuals during World War II may be made. The law stipulates that the actual award must be made by May 3, 1952. It covers the following decorations: Medal of Honor, Navy Cross, DSM, Silver Star and Navy and Marine Corps Medal. It does not apply to the DFC, Legion of Merit, Bronze Star Medal, Air Medal and Purple Heart.

* * *

Proxy Marriage

In view of the doubt existing as to the validity of the prior divorce of the wife of a Naval Reserve officer

355.5805
AR
v.4-5

and in the absence of evidence showing that her prior marriage had been dissolved by a court of competent jurisdiction, the officer's marriage entered into in Mexico where both parties were represented by proxy may not be considered as entitling the officer to increased rental and subsistence allowances on account of a dependent lawful wife, even though their marriage was dissolved by divorce rather than by annulment.—Decision B-87534, 1950.

* * *

Officer to Sergeant

At least one of every four Reserve officers who were separated from the Army in recent months enlisted as master sergeants. As a result, the top enlisted grade shot far above budget strength.

* * *

PX Regulations

Joint Regulations covering the operation of exchanges have been issued by the Army and Air Force. Under the new Regulation, purchases at Army and Air Force exchanges may be made by members of Reserve components on active duty in excess of 72 hours and their dependents. Others eligible to patronize exchanges included Reserve officers retired for disability.

Atom Defense Plan

An emergency plan to meet a possible atomic bomb attack will be drawn up for Washington and two other cities as a model for the rest of the nation. The purpose is to give all cities an idea of how to use both municipal and private facilities in case of emergency. For the purposes of the project, Washington is considered as an ordinary city and no special attention is given to special problems as the Nation's Capital. Civilian defense authorities will plot an atomic bomb raid on Washington, including the number of bombs dropped and the location of each. Since data is available on the effects of atomic weapons, the defense planners will be able to judge the probable amount of destruction.

* * *

Pertinent Quote

"... We are prepared to deal with biological weapons ... Defense measures now in eeffct or in preparation should prevent disastrous damage."—Maj. Gen. Anthony C. McAuliffe, Chief, Chemical Corps.

* * *

General Officer Assignments

The Armed Forces may soon have to ask Congress to increase the rigid limitations on the number of officers in the ranks of major general and rear admiral and above to meet increased responsibilities as a result of expanding international duties and overall responsibilities of the Department of Defense. When the current restrictions on two, three and four-star officers were imposed, the allocations were made exclusively with regard to the needs of a particular Service. Now, scores of generals and admirals are serving in posts outside the direct control of their Service.

* * *

VA Dividend

Former aviation cadets who received free life insurance while in training were allowed to participate in the recent dividend refund on national service policies. But members of the armed services who were taken prisoner at the beginning of the war—including those on Bataan, who were issued "gratuitious" policies—received no refunds.

The reason—the Armed services were authorized to pay, from their own funds, the premiums on the policies of aviation cadets. However, the policies issued to those taken by the enemy because they were not in a position to apply for insurance were "gratuitous" and no premiums were paid on them.

DRYDEN RUBBER DIVISION

SHELLER MANUFACTURING CORP.,
1014 SOUTH KILDARE AVENUE
Chicago 24, Illinois

✶

MANUFACTURERS OF

Molded Mechanical Dense Rubber . . . Molded Hard Rubber . . . Extruded Rubber . . . Chemically Blown Sponge Rubber . . . Rubber Heels and Soles . . . Rubber and Electrical Friction Tape

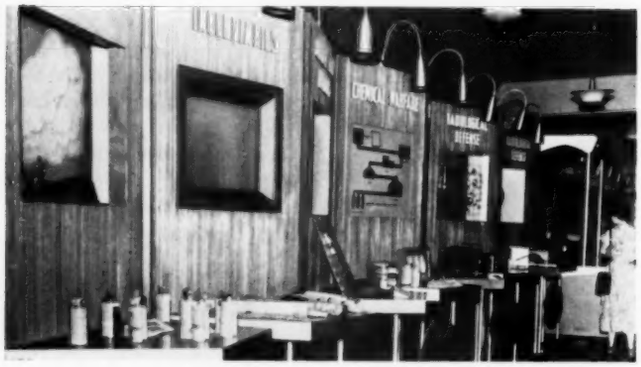
✶

. . . Factories . . .

CHICAGO, ILL. KEOKUK, IOWA MONTPELIER, IND.

JUL 16 1952

REGISTRATION
AFCA's Annual Meeting was acclaimed . . .



CHEMICAL EXHIBIT
. . ."outstanding" by all members.

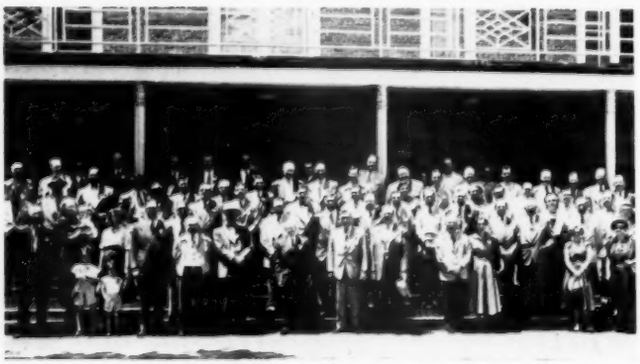
Reflecting its interest in the spirit of unification, the Armed Forces Chemical Association's membership of military personnel, scientists and industrialists gathered at Virginia Beach for the fifth annual meeting of the Association and simultaneously were guests of the Navy at Norfolk Naval Base during the three-day conclave, June 1-3. The meeting, hailed as an outstanding success by all present, establishes a new precedent for AFCA and appropriate credit is bestowed upon the Naval officers of Norfolk for contributing to the success of the affair.

The evening of the opening day of the meeting, the Board of Directors held its annual dinner and meeting naming the following as officers of the Association: Honorary President, Maj. Gen. Anthony C. McAuliffe, Chief, Chemical Corps; President, Dr. Walter E. Lawson, E. I. duPont de Nemours & Co., Wilmington, Del.; First Vice President, Col. L. W. Munchmeyer, Executive Assistant to the Vice President, General Aniline and Film Corp., Binghamton, N. Y.; Second Vice President, Dr. Ralph Connor, President, Rohm & Haas, Co., Philadelphia, Pa.; Third Vice President, Howard S. McQuaid, E. I. duPont de Nemours & Co., Wilmington, Del.; Fourth Vice President, George O. Gillingham, Federal Communications Commission, Washington, D. C.; Fifth Vice President, Robert T. Norman, Stein Bros. & Boyce, Washington, D. C.; Sixth Vice President, Brig. Gen. E. A. Montgomery, Washington, D. C.; Seventh Vice President, L. Douglas Weiford, Stauffer Chemical Co., New York City; Immediate Past President, Col. Harry A. Kuhn, Washington, D. C.; Secretary-Treasurer, Fred M. Jacobs, Washington, D. C.; General Counsel, Maj. Charles E. Pledger, Jr., Washington, D. C.

AFCA's FIFTH ANNUAL MEETING

A REPORT FROM VIRGINIA BEACH

DIRECTORS MEETING SESSION
This year under Navy sponsorship . . .



AFCA's OFFICIALLY YOURS
. . . with '51 honors from the Air Force.

At the meeting of the Board of Directors, Col. Harry A. Kuhn presented his annual report to members present. He recited that the rotation in annual meetings was established at the Army Chemical Center last year and in compilance with the wishes expressed at that time AFCA's 1950 meeting was under the sponsorship of the Navy with the '51 meeting scheduled for Air Force sponsorship, returning to an Army installation in 1952.

Colonel Kuhn advised the directors that at the Annual Meeting in 1949 he had pointed out the unsatisfactory financial position of the Association, due principally to the continuing loss on the Journal. During the past year Colonel Kuhn stated the Association had weathered the financial storm and receipts during the past twelve months have assisted in reducing expenses to such an extent that AFCA closed the fiscal year with an encouraging financial gain.

The principal economy effected was in the cost of the Journal. With the active cooperation of the printer, Benson Printing Company, Nashville, Tenn., the cost of the Journal was reduced approximately 30% without reducing either its size or quality. At the same time the net return on advertising to the Association was increased almost 25%.

Colonel Kuhn reported to the directors that since the last Annual Meeting the Association gained seventeen new group members making the present-day total, eighty-one, an all-time high in the history of the Association.

Another factor which improved the financial position of the Association was the favorable action by the Bureau of Internal Revenue on AFCA's petition to be classified as a

(Continued on Page 6)

DIRECTORS-AT-LARGE
ARMED FORCES CHEMICAL ASSOCIATION
1950-1951

DR. WALTER R. KIRNER
National Academy of Science

DR. HAROLD C. WEBER
Massachusetts Institute of Technology

DR. D. B. DILL
Army Chemical Center

LELAND I. DOAN
Dow Chemical Co.

DR. RALPH CONNER
Rohn & Haas Co.

WILLIAM J. HARSHAW
Harshaw Chemical Company

DR. H. F. JOHNSTONE
University of Illinois

H. B. McCLURE
Union Carbide & Carbon

E. V. MURPHREE
Standard Oil Development Co.

E. P. STEVENSON
Arthur D. Little, Inc.

SIDNEY D. KIRKPATRICK
Chemical Engineering

DR. WALTER J. MURPHY
Industrial Engineering Chemistry

COL. E. R. BAKER
Continental Oil Company

DR. ALBERT W. NOYES
University of Rochester

COL. L. WILSON GREENE
Army Chemical Center

DR. J. BENNETT HILL
Sun Oil Co.

DR. P. K. FROLICH
Merck and Company

COL. LUDLOW KING
Owens Corning Fiberglas Co.

DR. DONALD B. KEYES
Heyden Chemical Company

M. G. MILLIKEN
Hercules Powder Co.

ANNUAL MEETING

(Continued from Page 4)

nonprofit, education organization. This classification permits individuals making donations to the Association to take credit for them on income tax. Following publication of this ruling, Mr. George Dryden cancelled the note given him by the Association for the money advanced to cover publication cost of the Chemical Corps History. About $2200 had been received from the sales of the History and this has been transferred to the reserve of AFCA.

A further saving to the Association, according to Colonel Kuhn's report, resulted from the reclassification by Internal Revenue which exempts AFCA from Social Security and District of Columbia Sales tax.

At the last meeting of the Board of Directors on September 21, 1949, the Executive Committee was directed to study the question of dues. A committee, headed by Dr. Lawson, consulted with many individual and corporate members before presenting the final recommendations to the Executive Committee which were: (1) that no change in regular membership dues be made; (2) that an additional category of Contributing Membership, with dues of $1000 minimum per annum, be added; (3) that Student Membership dues be increased from $2 to $3 per annum.

These recommendations were approved by the Executive Committee and presented, together with the necessary changes in the Constitution, to the Board of Directors by mail. As a result of this mail ballot the recommendations were approved.

The Board of Directors welcomed the news that reaction of the Army, Navy and Air Force to the ROTC Medal awards established by the Association last year has been most enthusiastic and competition has been keen among students in the various colleges and universities.

It was pointed out at the meeting that during the past year the Association has been active in an advisory capacity in various phases of mobilization planning, including civil defense. In most cases this activity has been on an individual basis and to a large extent on classified matters.

After a discussion on the advisability of continuing the policy of rotating the Annual Meeting of the Board of Directors among the Services, Dr. Lawson made the motion that the Executive Committee be instructed to select the site for next year's meeting with preference to an Air Force Case. This met with unanimous consent of the directors.

Inasmuch as civil defense, now under the National Security Resources Board, is in the process of being revised and organized under local authorities, Colonel Kuhn recommended that chapters with members familiar with chemical, biological and radiological warfare cooperate fully in local organization of civil defense units in these fields. Mr. Glidden reported that several members of the Chicago Chapter of AFCA are already on the Mayor's Committee and are receiving excellent cooperation with the local officers.

AFCA Medal Winners

During the Annual Meeting at the Cavalier Hotel, the Association announced the 1950 winners of the ROTC medals. Recipients were:

Navy Units—Robert G. Garvin, The Rice Institute; John S. Martinez, Rensselaer Polytechnic Institute; Richard V. McDowell, Purdue University; Karl W. Meschke, Georgia Institute of Technology; Richard E. Paterson, Iowa State College; Charles G. Rudershausen, University of Wisconsin.

Chemical Corps Units—Lawrence J. Engel, Georgia Institute of Technology; William F. Harris, Purdue University; Charles D. Petrick, Ohio State University; Richard H. Reuther, Jr., Massachusetts Institute of Technology; Bill T. Thompson, Texas A. & M.

Air Force Units—Dempsey A. McKee, West Virginia University; Robert E. Winturn, Oregon State College; Edward L. Perkins II, Massachusetts Institute of Technology; James H. Taylor, Virginia Polytechnic Institute.

Secretary's Report

Fred M. Jacobs, AFCA's Secretary-Treasurer, submitted his report which is quoted in part as follows:

"This report reflects a sounder, more prosperous and more promising position for the Association at this time than for the same time last year.

"A year ago our total membership was 3200. Today it stands at 3181. This shows a loss, a slight loss, but when considered "on the curve" it is good. Other Associations of a similar order and character have, during the same period shown a substantial loss in total membership; we have, in effect, held our own.

"The procedures of changing membership expiration dates and subsequent reinstatement of membership, have been put into effect. Members who are delinquent in dues for more than three months will be so declared and notified and not receive any publications, but may be carried as delinquents for an additional nine months. Reinstatement of membership within one year of date of original membership shall be counted as an extension of the original membership.

"As a detailed financial report will be rendered by Colonel Varela, I will give you only the highlights. Last year at this time our net worth was $6,392.27. Today this stands at $9,873.81. During the year our gross income was $28,336.81—our expenses were $25,824.02. This reveals a net gain for the year of $2,512.79. In addition, $2,164.05 was derived as a gift from Mr. George B. Dryden, Dryden Rubber Division, in connection with the publication of the Chemical Corps History."

General McAuliffe's Message

Directed to Col. Harry A. Kuhn, the Chief of the Chemical Corps directed the following message:

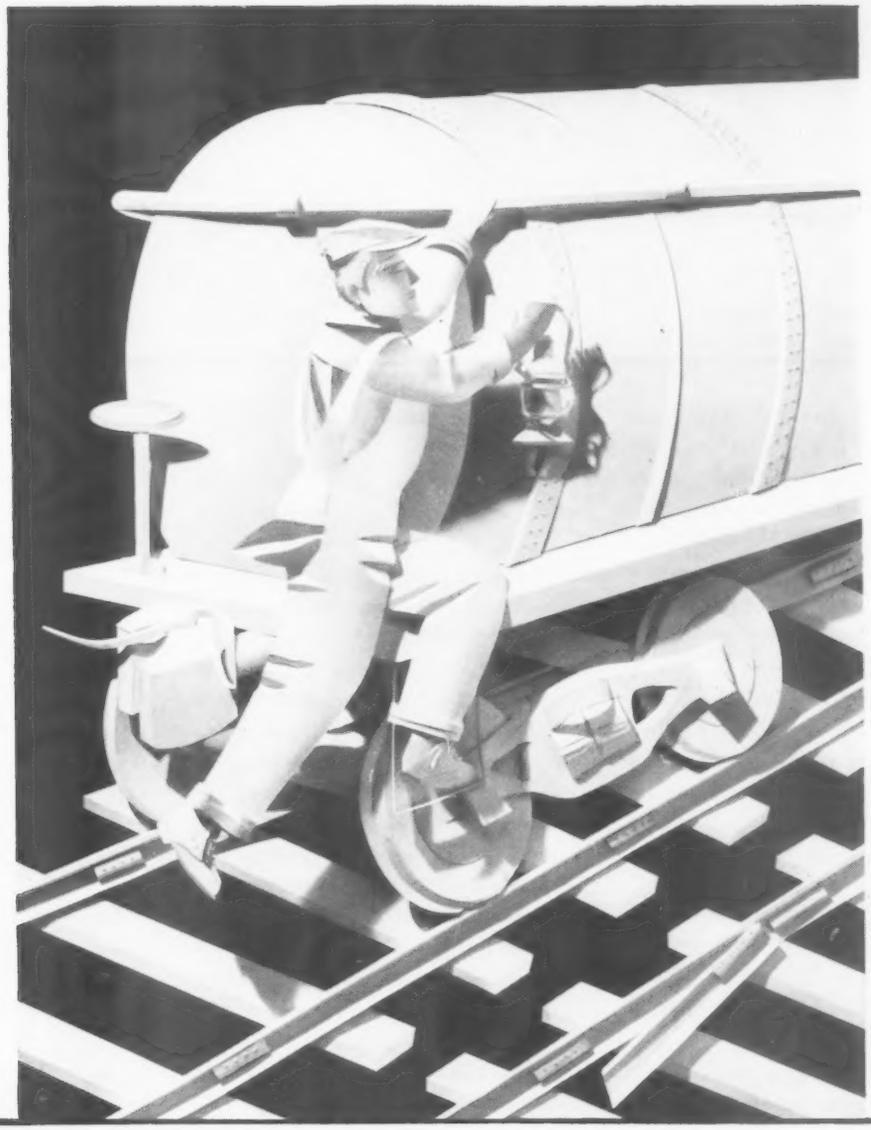
"It is with regret that I must advise you that I shall be unable to accept your invitation to address the members of the Armed Forces Chemical Association during your annual meeting at Virginia Beach. However, as Honorary President of the Association, I would appreciate your conveying a message of greetings to our members.

"As Chief of the Chemical Corps, I have had the opportunity of becoming personally acquainted with many members of the Association. More important, I have become familiar with your objectives in keeping alive the fine traditions of the Chemical Corps. Your objectives in sponsoring new developments of chemical warfare, of disseminating this information through the Armed Forces Chemical Journal, and in sponsoring cooperative endeavors on the part of all concerned, are in the highest traditions of the military service. The assistance you have given the Chemical Corps in solving many of its difficult procurement problems has been invaluable.

"As Chief of the Chemical Corps, I seek and encourage your continued collaboration and assistance. I wish to assure you that I shall do all that I can to promote a proper understanding of the objectives of the Armed Forces Chemical Association within the Chemical Corps."

Naval Base Tour

Another highlight of the Annual Meeting was a tour of Norfolk Naval Base and its facilities. In addition to inspection of ships, members attending witnessed the famed fire-fighting procedures and practices of the Fifth Naval District Structural Fire-Fighting School.



paper sculpture by gorecka-egan

"let 'er roll"

Whether they "roll" in tank cars,

or any other type of container, Niagara chemicals

are unsurpassed for quality.

- EBG* Liquid Chlorine
- NIALK* Caustic Potash
- NIALK Carbonate of Potash
- NIALK Paradichlorobenzene
- NIALK Caustic Soda
- NIALK TRICHLORethylene
- NIAGATHAL* (Tetrachloro Phthalic Anhydride)

*Trade-mark

NIAGARA ALKALI COMPANY

60 East 42nd Street, New York 17, New York

ANNUAL REPORT OF PRESIDENT

By
Colonel Harry A. Kuhn

ARMED FORCES CHEMICAL ASSOCIATION TO THE ANNUAL MEETING, JUNE 1, 1950.

The rotation in Annual Meetings was established at the Army Chemical Center last year. In compliance with the wishes expressed at that time we are now meeting under the sponsorship of the Navy and expect to meet next year at an Air Force installation, returning to an Army installation in 1952.

The principal business of this Annual Meeting of the Board of Directors, as laid down in the by-laws, is to review the minutes of the meetings of the Executive Committee held since the last meeting of the Board of Directors and take appropriate action thereon. Since each member of the Board was furnished a copy of the minutes of the Executive Committee meeting following each meeting, my report will be brief.

At our Annual Meeting last May, I pointed out the unsatisfactory financial position of the Association, which was due principally to the continuing loss on the Journal. At the directors meeting in Atlantic City in September it was pointed out that the deficit of approximately $4400 reported at the Annual Meeting had increased until our working capital had declined to a critical point. The Board of Directors at that time released a portion of the fixed reserve fund to be used for operating expenses if needed. I am delighted to inform you that we have been able to weather the storm and that it was not necessary to use any of the reserve fund for current expenses. With practically the same amount of receipts during the past year, we have been able to reduce our expenses to such an extent that we closed the fiscal year with a net gain of about $2500 as against the loss of $4400 reported at the fourth Annual Meeting.

The principal economy effected was in the cost of the Journal. With the active cooperation of the printers, Benson Printing Company, Nashville, Tenn., the cost of the Journal was reduced approximately 30 percent without reducing either its size or quality. At the same time the net return on advertising to the Association was increased almost 25 percent. Wolfe and Elofson Advertising Representatives, agreed to the termination of their contract in November, and relinquished to the Association all commissions due them on advertising for the balance of their contracts. The National Headquarters by direct approach succeeded in renewing for the January and April issues practically all of the advertising contracts which had expired. As a result of these actions, the advertising revenue to the Association was increased by the amount of the commissions normally paid to the advertising representative.

A third economy in the publication cost was the reduction of the salary paid to the editor of the Journal and News from $1600 to $800 per annum. This reduction was proposed by Captain Manchester, our editor, and accepted reluctantly by the Executive Committee. As a result of the economies effected, the last two issues of the Journal have made a very slight profit as against a loss of $900 per issue previously.

The Directory of Members published last July carried sufficient advertising to cover its cost. We are planning to issue a new directory in July this year but the returns to date on our advertising solicitation have been disappointing.

Without substantial revenue from advertising or a subsidy from contributing members, this Association cannot finance publication of either a Journal or a Directory. Our relatively small circulation does not appeal to even a medium sized advertising representative. The commissions are just too small for national coverage. Other military organizations such as ours have faced this same problem and solved it in a way which I recommend for your consideration. They employ no solicitors but rely entirely on their directors and chapters for their advertising with great success. In the case of chapters, an advertising commission is paid into the chapter treasury.

Other economies were made because they were imperative but in some cases these affected adversely the progress of the Association. For example, it was necessary to reduce drastically the budget for promotion of membership. Visits made by the National Officers to chapter meetings during the year were at their own expense. Also, most of the promotion work done to secure new group members was without expense to the Association. Our individual membership is about the same as at our last Annual Meeting, approximately 3200, but our group membership has been increased. At our last Annual Meeting we had 70 corporate members. During the year, six resigned but we gained 17 new members. At the present time, our group membership totals 81. I hope that our budget this coming year will provide more liberally for membership promotion.

Another factor which has improved the financial position of the Association was the favorable action by the Bureau of Internal Revenue on our petition to be classified as a nonprofit, educational organization. This classification permits individuals mak-

ing donations to the Association to take credit for them on their income tax. After this ruling was published, Mr. George Dryden cancelled the note given him by the Association for the money advanced to cover the publication cost of the Chemical Corps history. About $2200 has been received from the sales of the history and this has been transferred to the Association reserve but is not included in the $1500 gain for last year.

A further saving to the Association, resulting from the reclassification by Internal Revenue, is exemption from Social Security and District of Columbia sales tax. We anticipate a refund of several hundred dollars Social Security tax paid by the Association prior to the decision.

The investments of our Life Membership dues more than paid the dues for these members during the past year, in addition to increasing in market value. Our finance committee did a good job.

At the last meeting of the Board of Directors on 21 September the Executive Committee was directed to study the question of dues. A committee headed by our First Vice President, Dr. Walter Lawson, studied the whole subject of dues at some length and consulted with many individuals and corporate members before presenting the final recommendations to the Executive Committee. Their recommendations were:

1. That no change in Regular Membership dues be made.

2. That an additional category of contributing membership, with dues of $1000 minimum per annum, be added.

3. That Student Membership dues be increased from $2 to $3 per annum.

These recommendations were approved by the Executive Committee and presented, together with the necessary changes in the constitution, to the Board of Directors by mail. As a result of this mail ballot the recommendations were approved.

The reaction of the Army, Navy and Air Force to the ROTC medal awards established by the Association last year has been most enthusiastic. These medals have again been awarded for the year 1950 by the three services and the list of the winners appears in the program for this annual meeting. Presentation ceremonies of most of these medal awards have been held, others will be held in June, with the exception of the summer training camp award at the Army Chemical Center. We expect to publish details of the ceremonies of the award presentations in the July issue of the Journal.

During the past year the Association has been active in an advisory capacity in various phases of mobilization planning, including civil defense. In most cases this activity has been on an individual basis and to a large extent on classified matters.

The Armed Forces Chemical Association joined with the other military associations in sponsoring the Armed Service-Industry Conference in New Orleans in February. The Louisiana Chapter was the host for the Chemical Corps activities. Col. Ludlow King represented the National Headquarters at the luncheon and banquet.

Approximately one-third of our members cast a ballot for election of the twenty Directors-at-Large. This is believed to be a high percentage of the membership and indicates an active interest in the Association. The balloting was close and only a few ballots separated the twentieth and twenty-first candidate.

A. F. C. A.'s PRESIDENT

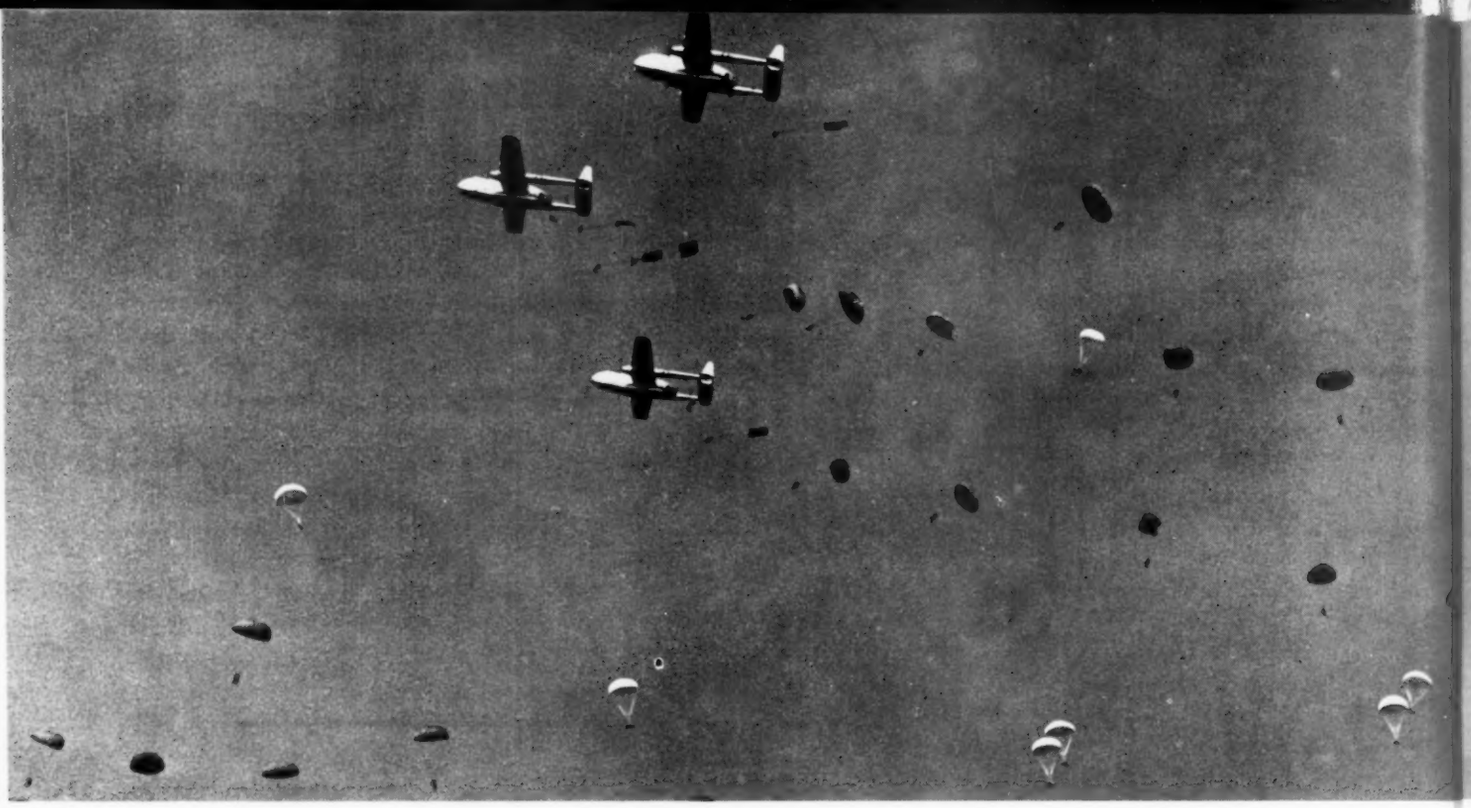
A native of South Dakota, Dr. Walter E. Lawson received his Bachelors and Masters degrees in chemistry at the University of Washington and his Ph.D. at Johns Hopkins. He served as an officer in the Marine Corps from 1917 to 1919 and during the year 1921-1925 served as a research chemist at Edgewood Arsenal.

Doctor Lawson has been employed by DuPont since 1925, being successively a research chemist, director of the Eastern Laboratory, Assistant Chemical Director of the Explosives Department and since 1946 a member of the Development Department. He has been a consultant to the Research Division of the Chemical Corps at intervals since 1925. During the war he was a consultant to the Office of Scientific Research and Development. He was a member of the Navy Technical Mission for the Survey of Germany and a member of the U. S. Bombing Survey of Japan.

It will be noted that Doctor Lawson has intimate connections with all three of the Armed Services. He served in the Marine Corps, his wife is the daughter of the retired Surgeon General of the Navy; his two sons are graduates of Annapolis and now serving in the Navy. He was a consultant to the Air Force and holds a private pilot's license.

RING OUT THE OLD—RING IN THE NEW

President Walter Lawson, left, receives congratulations from Col. Harry Kuhn



Fairchild Packets of the 314th Troop Carrier Wing unload paratroopers over the drop zone as part of the mass

Symington

OF NSRB

IN EVENT OF A NATIONAL EMERGENCY, ONE OF THE MOST POWERFUL MEN IN UNITED STATES GOVERNMENT WILL BE THE CHAIRMAN OF THE NATIONAL SECURITY RESOURCES BOARD. UNTIL RECENTLY SECRETARY OF THE AIR FORCE, "STU" SYMINGTON IS NOW MAKING NSRB'S WHEELS RUN AND FAST!

Amphibious troops scramble out of their landing barges and move onto the beachhe of the joi

sk featured 11th Airborne Division paratroopers can be seen still leaving the jump doors of fairchild C-82 Flying Boxcars

"My first job is to see that we have good staff men. For the most part we have good men and they have done an excellent job—far better than most people realize. But we have to get a few more men outstanding in their professions and then we have to get practical plans—not plans just for planning's sake."

These words, spoken by W. Stuart Symington three weeks after his appointment as Chairman of the National Security Resources Board, revealed the thoughts of NSRB's new "chief" in relation to his top-flight assignment. In addition to just his presence in the old State Department building, his views on NSRB's importance to the nation seemed to be breathing new life into the all-powerful Washington agency. Some said it was about time!

There is little questioning that since Symington "took over" his post-Air Force task, NSRB, the body that drafts plans for co-ordination of military, industrial and civilian war mobilization, has been revitalized. Agency employees seem to walk a little faster now that the 48-year-old industrialist has assumed management of the planning group that will advise the President on how American manpower, money and materials can best be altered from civilian to war production.

While Chairman Symington could be expected to perform semi-miracles with NSRB—when compared to the past—reality would make it a most difficult task to champion the Board to produce the essential items so necessary in an emergency unless a reorganization could be accomplished. Accordingly, President Truman submitted Reorganization Plan No. 25 to Congress which would give Symington greatly enlarged powers. This indicated that the President had realized the "old" setup could not meet demands of the cold war or plan for the possibilities and implications

(Continued on Page 33)

hf the joint Army-Navy-Air Force Portrex maneuvers off the island of Vieques, Puerto Rico.

ONE after another, the East European countries have fallen into the lap of Soviet Russia in the last few years and the world has stood by and watched their fall in powerless amazement. Few are the people who know precisely how this fall is effected. One hears of forged elections, police terror, illegitimate pressure brought to bear on the opposition, etc. All these things startle and inspire aversion, but the real nature and the actual working of Communism are intimately known only to those who have experienced them personally. The world would do well to listen to their sordid and at the same time tragic tale. The Soviet Empire is expanding daily, its fifth columns are working secretly in every country, and, once it has engulfed Europe and Asia, only an Act of God can save the United States from sharing the fate of her predecessors.

The following lines propose to tell of the sovietization of one of the Baltic republics, Estonia, which is this writers homeland. Developments in the other two, Latvia and Lithuania, were identical. If in the case of the Balkan countries Russia can excuse at least part of her terror by the fact that she is dealing with former enemies and must stamp out hostile, perhaps even Fascist, elements, then in the case of the Baltic countries she has no such excuse. These countries had been strictly neutral, had had treaties of friendship with the USSR, and had never endangered Soviet security in any way. Nevertheless, they were sovietized in the first year of the recent war by methods since applied to other countries. Subsequent modifications in the sovietization technique have been so insignificant that the case of the Baltic republics may indeed be viewed as a pattern of Soviet procedure when wishing to absorb a country. The reader who has followed the course of events in Eastern Europe at all closely during the last years, will note that the details tally in every particular.

* * *

Estonia, my country, is a small peasant republic on the Baltic Sea, facing Finland over the gulf of that name. The forebears of the present day Estonians have lived on the same spot for at least 4000 years and the Estonians are consequently among the oldest nations in Europe. They lost their independence in the 12th century to Teuton Knights of the Sword and have since then always considered the Germans as their primary enemies. In the course of their changeful history since the first German invasion they have had to live under many rulers but the dream of liberty and the hope of regaining independence have never died in their hearts.

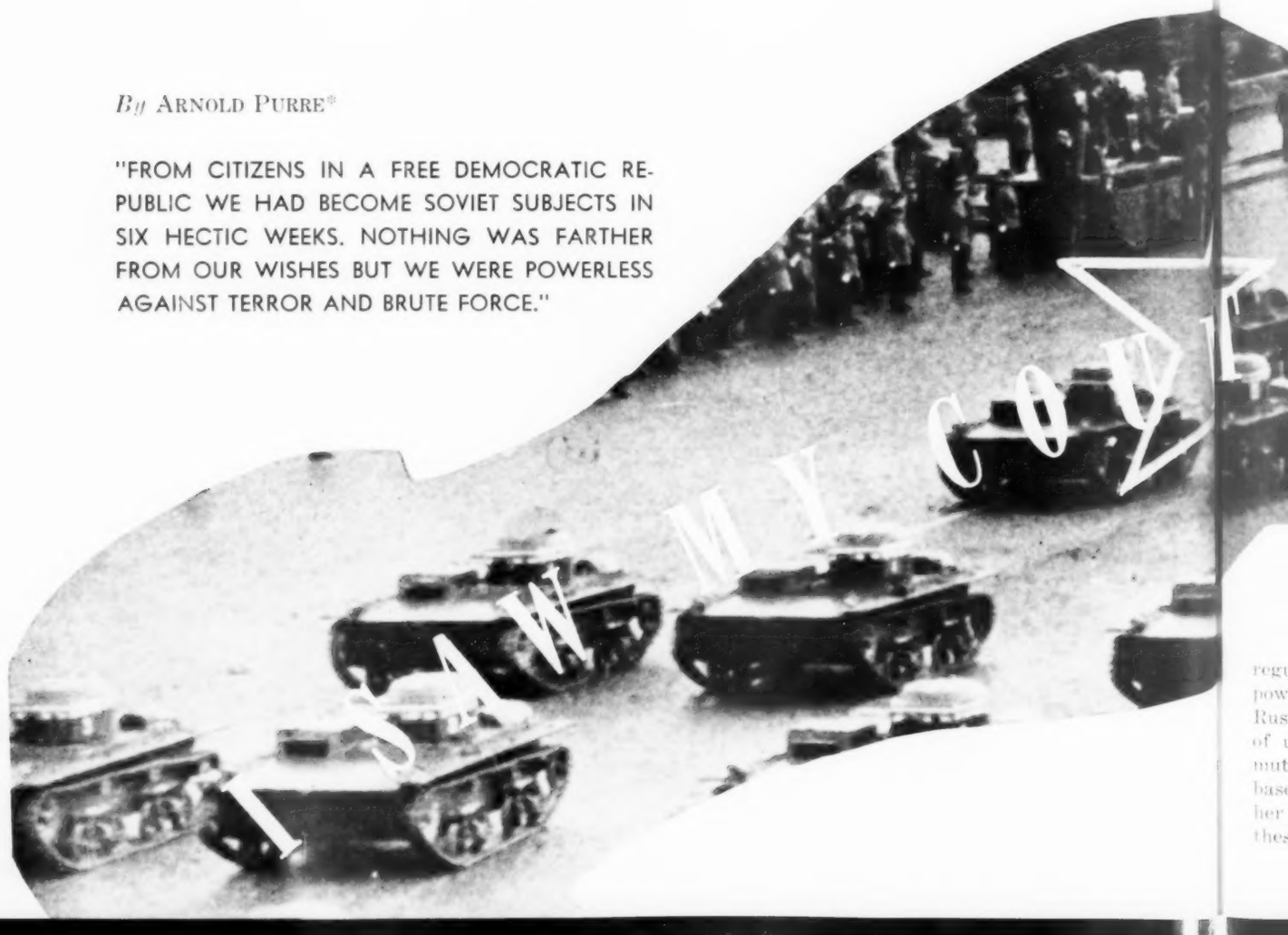
When the empire of the Russian Czars disintegrated after World War I, the minority nations, Estonians, Latvians, Lithuanians, Finns, Poles, and Georgians, at one time or another subjected by the Czars, constituted themselves as independent republics. The Communists, who had by then come to power in Russia, in 1918 sent their armed forces to suppress the young republics, thereby repudiating the doctrine of the self-determination of nations to which they had subscribed only a few months earlier. Only Georgia was unable to oppose them, all the other nations resisted the Soviet forces successfully and won their independence in an armed conflict with a powerful adversary.

Estonia's War of Liberation lasted from 1918 until 1920 and terminated with the Peace Treaty of Tartu, in which Russia "voluntarily and for all time" solemnly renounced all her sovereign rights on Estonia's territory and people.

However, it did not take long before the Soviets made

By ARNOLD PURRE*

"FROM CITIZENS IN A FREE DEMOCRATIC REPUBLIC WE HAD BECOME SOVIET SUBJECTS IN SIX HECTIC WEEKS. NOTHING WAS FARTHER FROM OUR WISHES BUT WE WERE POWERLESS AGAINST TERROR AND BRUTE FORCE."

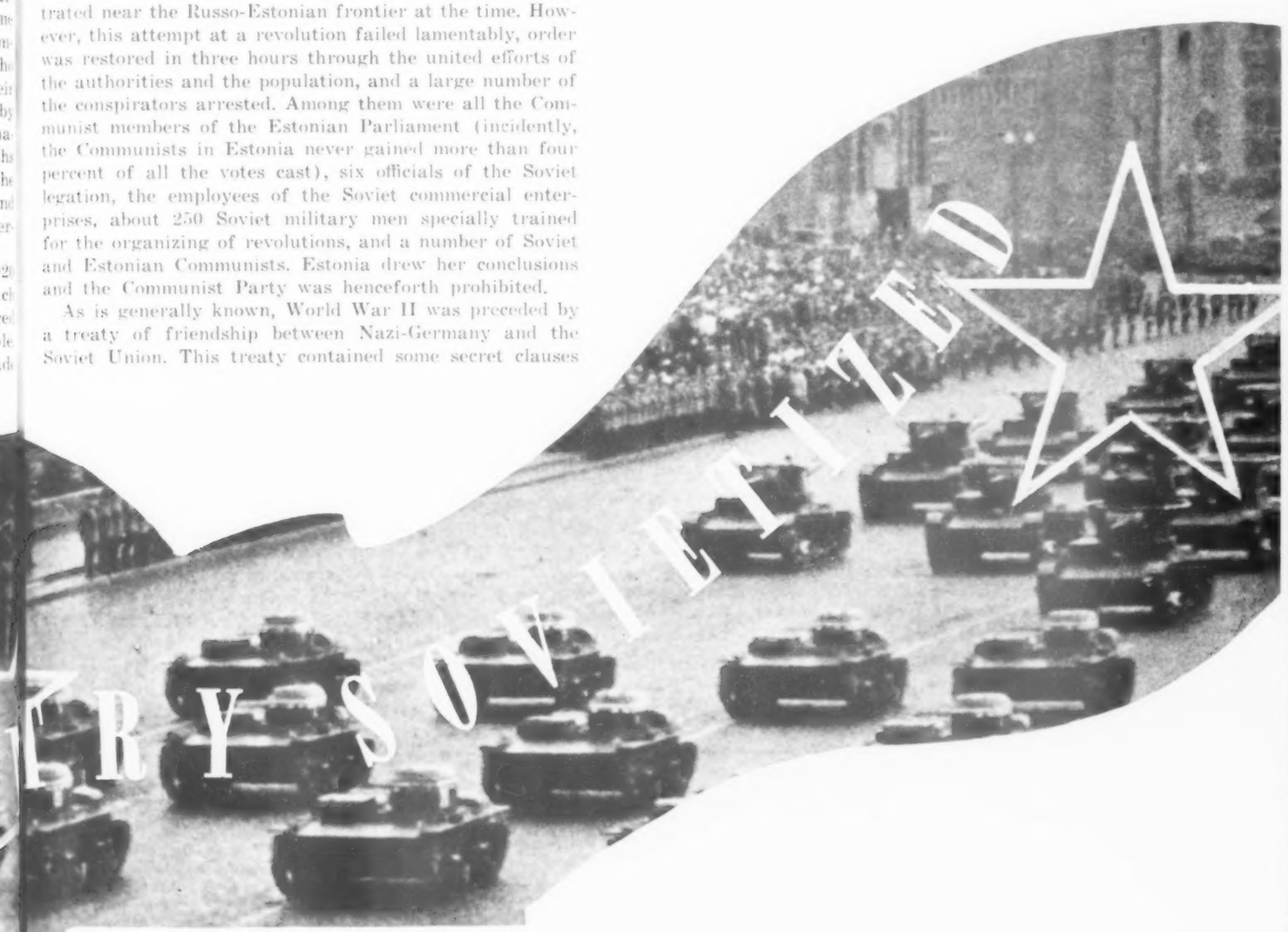


it evident that their word could not be counted upon. In 1924 the USSR suddenly professed the wish to make arrangements for the transit of large consignments of goods from Western Europe through Estonia. My country welcomed this proposal which was to lead to large profits for Estonia, the Russians founded numerous commercial enterprises in the country and even imported a large number of dockers and other workers. The nature of this "commercial" activity was disclosed when on the morning of December 1, 1924, a Communist coup d'etat against the legal government of the Republic was attempted. Dressed in the uniforms of Estonian soldiers and officers, the Bolsheviks attacked various government offices, military barracks, the central post office, and tried particularly to gain control of the radio station, to proclaim Estonia a Soviet republic and to call the USSR to their assistance. Large formations of Soviet troops were indeed concentrated near the Russo-Estonian frontier at the time. However, this attempt at a revolution failed lamentably, order was restored in three hours through the united efforts of the authorities and the population, and a large number of the conspirators arrested. Among them were all the Communist members of the Estonian Parliament (incidently, the Communists in Estonia never gained more than four percent of all the votes cast), six officials of the Soviet legation, the employees of the Soviet commercial enterprises, about 250 Soviet military men specially trained for the organizing of revolutions, and a number of Soviet and Estonian Communists. Estonia drew her conclusions and the Communist Party was henceforth prohibited.

As is generally known, World War II was preceded by a treaty of friendship between Nazi-Germany and the Soviet Union. This treaty contained some secret clauses regulating the spheres of influence of the contracting powers. The Baltic republics had fallen to the part of Russia who, in September 1939, after obtaining her share of unhappy Poland, forced on them so-called treaties of mutual assistance, entitling Russia to military and naval bases on the territories of these republics and providing her with the right to keep a certain number of troops in these bases. Wedged in between USSR and Germany as they were, the Baltic countries had no choice but to agree.

We were deeply mortified by the curtailment of our independence but also conscious that a small nation must resign itself to much when a titanic conflict is shaking the world. We imagined that the Communists no longer were the blood-thirsty savages they had been in 1918-1920 and the prevalent opinion was that collaboration with Russia, though enforced, was to be vastly preferred to collaboration with Germany, to which we might equally have been compelled.

We did our best to honestly cooperate with Russia, all our people remained at their posts, there was not a single instance of anyone leaving the country. How did the USSR repay our sincere efforts? The troops at the bases were about four times as numerous as had been agreed upon; Soviet agents swarmed over the country in thousands in the guise of various officials attached to the troops and in other capacities trying to incite our workers, though without the slightest success, to rebellion against their democratically elected Government. While these things were going on, Molotov spoke in the Supreme Soviet on the pacts with the Baltic Countries, hypocritically insisting that all the rumors about the intended sovietization of these countries were "libellous inventions"



of Western imperialists, that both sides had faithfully kept to the pact and that mutual relations could not be better.

This was in March, 1941, and in June, without any visible reason, the Soviets accused the three Baltic republics of violating the pacts and planning military aggression against the USSR. Never mind that the idea of six million people wantonly preparing war against 180 millions was preposterous, the USSR, nevertheless, demanded the establishment of new governments "friendly to the Soviet Union" and the right to keep an unlimited number of troops anywhere on th territories of the three republics. Resistance was out of the question—Estonia, e.g. had a peacetime army of only about 10,000—and all the three countries were occupied on June 17, 1940, by overwhelming numbers of Soviet troops.

THE NAZI PUSH INTO POLAND
". . . details tally in every particular."

On the same day special emissaries of the Soviet Government arrived in the capitals of the Baltic states—Zhdanov, the subsequent creator of Cominform, in Tallinn, Estonia, Vyshinksi, of UNO fame, in Riga, Latvia, and Dekanozov, not unknown to the world even he, in Kaunas, Lithuania.

It was a portly and smiling gentleman who alighted from the armored train that had brought him from Leningrad to Tallinn. All the streets Zhdanov had to traverse on his drive from the station to the Soviet Legation, where he took up his abode, were closed for traffic and lined with Russian troops, while machine-guns were posted on the roofs of the adjoining houses. Our wonder at these precautions was great indeed, for neither our own statesmen nor their foreign guests had ever feared the people. For several days there was no sign of life from the Soviet Legation, except that certain Estonian Communist sympathizers were observed visiting the building.

Then, on the morning of June 21, the workers in some of Tallinn's largest factories were told by some trade union functionaries to leave off working and to repair to a certain square in the center of the town. Refusals and murmurs were shouted down with threats. When the amazed and rather troubled men reached the square, they found it surrounded by Soviet tanks and armored cars. Revolutionary slogans painted on lengths of red canvas and stretched between two poles were distributed for them to carry and a dishevelled young man addressed them to the effect that they had for years groaned under the heel of blood-sucking capitalists and that now the time had come to cast off the yoke of the exploiters. Thereupon the crowd, which numbered only about 1000 men and women, was marched between Soviet tanks through the whole town to the residence of the President of the Republic. The men trudged on with sombre faces, some women cried. The President tried to speak to the people from a balcony but was shouted down by a throng of rowdies and loafers who had been rounded up for the purpose of augmenting the demonstration. Before the workers were allowed to go home, they had to march to the town prison where the Soviet soldiers "liberated" 18 criminals who had to pass as political prisoners, as no such sat in the Estonian prisons at the time, an amnesty having given them their freedom some time previously. On the evening of the same day a list with the names of the members of Estonia's new Government was

ARNOLD PURRE

ABOUT THE AUTHOR

Mr. Purre served as an officer in the Estonian Army until 1940 when Soviet occupation of that nation absorbed its military forces into the Red Army. His "transfer" to Soviet military forces found him as a member of a Red reconnaissance battalion. He fought with the Soviets against the Germans in the summer of 1941 and in August of that year "extracted" himself from Soviet jurisdiction by escaping through the front lines and returning to Estonia. Three years later with the Soviet advance threatening his nation, he, again as an Estonian officer faced the Red Army as a combat unit commander. With reoccupation of his country by Russian forces in 1944, Mr. Puree escaped to a neutral nation. Now living in Stockholm, Sweden, he is considered as one of that country's best informed experts on the Red Army and Soviet operational techniques.

sent over from the Soviet Legation for the President of the Republic to sign and the Sovereign Democratic People's Republic of Estonia had ceased to exist.

* * *

Identical "spontaneous workers uprisings" took place in the capitals of Latvia and Lithuania. Everything tallied to the last dot: the hour, the speeches, the slogans, the numerous Soviet tanks.

The new Governments in the three republics were a surprise: they were by no means composed of outright Communists and included, along with some notorious leftists, university teachers, professional men, writers and artists whom nobody had hitherto suspected of directly pro-Soviet leanings. The three Governments issued identical declarations, announcing a number of somewhat nebulous reforms, but at the same time vowing that the sovereignty and independence of the republics would be unimpaired, the constitution and the existing laws respected, and personal security and rightfully acquired property safeguarded. Elections to a "Chamber of Deputies of the People" were proclaimed a few days later to take place in about a fortnight—a ruthless violation of the existing electoral Laws, which provided for a much longer period of preparation.

A time of complete chaos set in. The existing police was discharged and its duties overtaken by the so-called People's Guard, gangs of desperadoes recruited from among the criminal elements and the floatsam and jetsam of the population, ready to carry out any and anybody's orders for pay. While the members of the new Government continued to protest that everything would be almost as before, only better, political agitators who seemed to have sprung up from the earth and many of whom were not Estonian citizens, began inciting certain classes of the population to enmity against others at innumerable meetings attendance at which was compulsory for the entire working population, i.e., the whole Estonian nation, for only about 4.5 percent of it lived on capital. The agitators directed their main efforts to poisoning the minds of the workers and soldiers, telling the ones that their bosses, engineers and foremen had starved and exploited them, and the others that their officers had humiliated and tortured them and that now the hour had come for the proletariat to take revenge. The obvious intention was to provoke bloodshed.

In Estonia class distinctions had been non-existent, the national income had been very evenly distributed, laws limiting the dividends paid on capital, there had been neither very rich nor very poor people, the workers were by no means downtrodden but very conscious of their own worth, with all their rights legally protected, the soldiers had never trembled before their officers or felt any animosity towards them—in a word, the call to vengeance fell on deaf ears. By nature the Estonians are a stolid and undemonstrative people, individualists accustomed to think for themselves and given to no passionate outbursts, but now they reacted passionately, and in the opposite direction to the one their new rulers wished them to take. In a few weeks the nation was welded to a unity it had never known before and the foremen had to admonish the workers and the officers to restrain their men from openly giving vent to their indignation and rage at the lies and slanders.

To express one's opinion, hitherto the self-evident right of every citizen, suddenly became extremely dangerous. Russian troops and tanks surrounded every meeting place, men from the People's Guard mingled with the audience and arrested all mutterers, all who dared to frown or to smile ironically, all those who did not applaud when Stalin's name was said. The prisons filled as never before and soon nobody dared to show his resentment publicly.

Then came the elections. The candidates of the Government were united in the "Estonian Working People's Front" and had every imaginable facility for propaganda at their disposal. As the Constitution was not yet abolished, the opposition could not be prevented legally from contesting the elections. Accordingly a candidate for the opposition was presented in every constituency. Though the Soviets have told the world that the inhabitants of the Baltic countries voted with "indescribable enthusiasm" for the Working People's Front, they dared not allow the candidates for the opposition to stand. On the eve of Ballot Day they were summarily disqualified on the ground that their platforms were "hostile to the interests of the working people." The familiar slogan of "who is not with us is against us," coupled with the threat that "the working people have only one answer to give to their enemies —annihilation," was reiterated at innumerable meetings with the addition that anyone failing to vote was an enemy of the people.

* * *

On Election Day the people, fearful of the consequences, went to the ballot boxes and dropped in their votes under the watchful eyes of Communist Party members and Soviet military observers. Disregarding the danger, many had put a blank sheet in their envelope or otherwise rendered their vote invalid; others avoided voting altogether; at best only 50 percent of the voters can be said to have cast a vote for the candidates of the occupants, but that did not prevent the Soviets from proclaiming that the Chambers of Deputies in all the three republics were elected by a majority of 92-97 percent. As if there had been anybody to elect with only one candidate in every constituency!

The day following on the elections, Vyshinski and Dekanozov traveled to Tallinn and confabulated with Zhdanov. The result was that the Governments of the three republics received the order to stop work at the factories at noon on the following day and to send out the workers to march through the streets with slogans demanding that Estonia, Latvia and Lithuania join the Soviet Union. Soviet tanks again accompanied the demonstration—"to prevent possible attacks of the enemies of the people"—and the workers were threatened with reprisals if they should absent themselves. The men went with heavy hearts —the new slogans were a complete surprise after what had been said hitherto and boded worse things to come.

On June 21, the newly elected Chambers of the three republics met for the first time on the same day at the same hour in the respective capitals. The buildings where the meetings took place were surrounded by Russian troops, Russian soldiery crowded the halls and lobbies. Apparently the puppet deputies were not entirely trusted; according to the evidence of some among them they were cautioned before the meeting that anybody refusing to vote for the proposed motions would be shot immediately together with the members of his family.

The order of the day, held secret until the meeting, comprised four items: 1. The question of Estonia's (Latvia's, Lithuania's) state structure; 2. Estonia's (Latvia's, Lithuania's) union with the USSR; 3. Nationalization of the land; 4. Nationalization of industries and banks. Needless to say that the deputies did what was required of them and in the first days of August the Supreme Soviet in Moscow, responding to the humble petitions of delegates from the three republics, incorporation the Baltic states in the USSR.

From citizens in a free democratic republic we had become soviet subjects in six hectic weeks. Nothing was farther from our wishes but we were powerless against terror and brute force.

The President of the Republic was arrested and deported, a purely Communist Government superceded the quislings of the transition period, who were demoted to less prominent positions and subsequently largely liquidated. The arrests of people prominent in all ways of life, which had started on June 21, the day of the "uprising of the toiling masses" increased in volume. Among the arrested were not only those who had openly expressed their dissatisfaction with the new order, but former politicians and statesmen, civil servants, businessmen and industrialists, and former members of the police force. What became of the arrested was never told; if their families inquired after them, they were advised to cease these inquiries if they themselves did not want to disappear.

TOASTING SUCCESS IN EUROPE
The question now—which country next?

The whole economic life of the country was disorganized. The decree nationalizing the land, a flagrant breach of promise to the farmers, who had been assured that their property would be safeguarded, introduced a Land Reform in the course of which the larger farms were parcellated into small plots and distributed to new settlers who were unable to subsist on them. The authorities never intended that they should, as the Land Reform was in reality only a preliminary to collectivization. In the meantime the output of agricultural produce, which had been among the main exports of Estonia, sank to an alarming extent and the towns began experiencing a shortage of food.

Things were not any better as regards industrial products. All the industries in the country were nationalized and some of the largest subordinated directly to Moscow, which meant that their output went to Russia in its entirety. The smaller ones were allowed to reserve some of their output for the home market but this output had decreased appreciably owing to the bureaucratic way of running the plants, the executives being hampered by innumerable regulations and plans and having to wait for weeks for decisions from above before the smallest step could be undertaken. This resulted in an acute shortage of consumer goods and the formerly so well-stocked shops, which the Russians took for plutocratic exhibitions on their arrival, soon displayed empty shelves.

However, the shops were not alone in being empty, for so were the pockets of the population. The Estonian monetary unit, the kroon, was exchanged at a rate of 1 kroon to 1.25 rubles. In reality the purchasing power of the ruble was 10-15 times lower than that of the kroon. But not enough of that—prices were raised to the Soviet level, which meant that a ready-made suit of clothes which had hitherto cost 30-50 kroons now cost about 1000 rubles. Although wages were raised slightly, too, an Estonian workman who had been able to buy two suits for his monthly wage, now had to spend his total earnings for four months to buy one suit. Moreover, if he had any savings in the bank towards a rainy day, he ran the danger of being qualified as a capitalist since bank accounts exceeding the equivalent of 300 dollars, a sum by no means large even by the modest Estonian standards, fell to the state by a law which insinuated that such riches could not be rightfully earned property.

The living standard of the population sank to an unprecedented degree. When on the arrival of the Red troops and officials in June, 1940, the inhabitants of the most modern and comfortable houses were evicted at two hours notice to make room for the conquerors and had to squat on their friends and relatives, this was thought a temporary emergency measure. However, it was made the rule by a government decree alloting only 9 square metre (about 10 square yards) of living space per capita to the population in our towns. It became the usual thing for three families to live in a flat of as many rooms and to have only one kitchen and one bathroom for perhaps 12 or more persons. All the houses, even small one-family ones and such built by co-operative building societies—a form of acquiring a home of one's own very largely patronized by our factory workers—were nationalized, and the inhabitants henceforth at the mercy of Government officials, who evicted them as undesirables at their own sweet will, never repaired anything that had broken down, and rarely heated the dwellings properly.

* * *

If anybody thinks that there is no unemployment in the Soviet Union, he is much mistaken. In a newly absorbed country at any rate there is plenty. First of all there are people who have owned property which has been nationalized. If your farm, house, factory, store or workshop is declared the property of the people, that means that your savings are nationalized, too, and you retain only your clothes and furniture. To get hold of these, the Government burdens you with a tax on the earnings which the state has just seized, and this tax is so huge that you cannot pay it off even after selling every scrap you still may possess. If you then try to find a job, none will be available for you, because in the Soviet Union every applicant for employment must fill in a questionnaire with the most minute data on his life and anybody having been the owner of property since nationalized is a pariah and unfit for a job, whatever his qualifications. You have to starve or subsist on charity, occasionally doing odd jobs by the day, when the formal application is not required. Even your children will forever be regarded as outlaws owing to their disgraceful parentage, their school fees will be considerably higher than for children of "loyal" citizens and their getting on in life severely hampered.

This comfortless fate is shared by the civil servants and workers dismissed for political unreliability, and their number in Estonia was not small when the Reds came to

power. Altogether perhaps, the fate of the workers under the Soviet regime is the most pitiful, because they are led to expect so much from it. In reality they lose all the rights they have acquired under capitalism by an agelong struggle. Their wages, though increased nominally, have only a fraction of the purchasing power they have in the democracies and must be earned by exhausting piece-work, which is prevalent not only in all the industries but even introduced in agriculture. They not only do not have any part in the management of their factories, of which they are nominally the masters, but have no say even as to where they would like to work, as they can leave their employment and seek a new job only with the approval of their factory manager, which is more often withheld than granted. What is more, at 24 hours notice they can be transferred to any part of the Soviet Empire if the state plans require it, and to protest is a counter-revolutionary crime. Their trade unions exist only in name and are used by the management to enforce labor discipline and to drive them to increased efforts. And lastly, they cannot go on strike, Soviet laws regarding strikes as sedition punishable by death.

* * *

The people who suffer least under Soviet rule are writers, artists, actors and scientists. If they toe the Party line and excel one another in praises of Stalin and the regime so that their work may be used for propaganda at home and abroad, they are allowed to retain a comparatively decent standard of living. Another strange exception was made in the Baltic countries for the armies. Though the Communist theoreticians hold that in case of a revolution the army, the civil service, and the police force of the capitalist state involved are to be destroyed as hopelessly unreliable, the Baltic armies were absorbed by the Red Army in September, 1940. The only explanation that suggests itself is that the Soviets had no doubt that they would be involved in the world struggle then going on and hoped to turn the fighting power of the Baltic republics to account in one way or another. It may be that they also feared serious disturbances and wholesale desertions among the troops if the officers were to be arrested *in corpore*, anyhow, every detachment was provided with a political leader, or politruk, and the Baltic armies became the Baltic Military District of the Red Army. Many officers filed applications of retirement but only very few got their discharge papers, and those who did get them were arrested on the following day to disappear without trace. Alongside with the political training of the men, the politruks examined the officers for their reliability and those found wanting were regularly weeded out by the NKVD.

The fear of this institution is the paramount emotion of every Soviet citizen. Nominally a department of the Ministry for Interior Affairs, it has its ramifications in every institution, in every way of life, from the capital to the remotest village. The number of its agents is immense and almost as great as the fear to be arrested by it is the dread to be forced to become its agent. These agents were recruited from every class of society, one could never be sure that one's best friend was not in its service. The procedure it employed to obtain the services of a likely person was very simple: the prospective agent was invited to the NKVD headquarters, charged with every imaginable crime and then offered the choice between the death penalty for himself and his family *or* becoming a spy and agent provocateur. The NKVD never hesitated to carry out its threats in case of refusal and there were not many who dared refuse.

* * *

On their precipitous flight from Estonia before the advancing Germans in 1941, the NKVD left behind part of their archives and these revealed the reasons for which the Soviet authorities used to execute people. The most frequent ones were: membership in the former Homeguard or other "bourgeois" organizations, corresponding with friends and relatives abroad, assistance to Finland during the Winter Campaign, possession of counter-revolutionary literature, singing of patriotic songs, wearing of the national colors, speaking slightingly of the Communist Party or the Red Army, etc. For some reason the NKVD never executed its victims outright; they had always to confess to more crimes and to tell the names of their "accomplices" and friends, who would then also be arrested. When the prisoners declared that they had nothing to confess, they would be tortured.

Very few are the people who have escaped from NKVD prisons and all of them had to sign a pledge of silence, but some have talked, nevertheless. The cells of these prisons were full to overflowing and the regime such as to wear out the prisoners power of resistance. They hardly got any sleep: this was forbidden during the day and the nights were reserved for interrogations. The prisoners were fed on salt food and given no water to drink, they had to sit in the glare of superstrong electric lamps when being interrogated, they were beaten with rubber truncheons and the butts of revolvers. The recalcitrants were locked in small airtight cupboards where they almost suffocated, or placed in electrical baths where they were torn with excruciating convulsions. When the Bolsheviks had fled, the War Ministry in Tallinn, a large building which had served as NKVD headquarters, revealed these cupboards and baths together with a number of other curious contraptions resembling electric chairs, but there were no men alive to tell their purpose. In the cellar of the same building was the execution chamber, its walls riddled with bullets at the height of a man's breast. In one corner of the floor was a hole for the outflow of blood.

The NKVD had, moreover, branches all over the country, very often situated in solitary country houses, where the victims were tortured in much the same fashion. Hundreds of mass graves were dug up after the retreat of the Bolsheviks and the friends and relatives of many people who had disappeared without trace discovered their nearest and dearest in some disfigured corpse. A number

(Continued on Page 38)

REGARDING INDUSTRY . . .

"All the industries in the country were nationalized and some of the largest subordinated directly to Moscow, which meant that their output went to Russia in its entirety."

AND LABOR . . .

"Altogether perhaps, the fate of the workers under the Soviet regime is the most pitiful, because they are led to expect so much from it. What is more, at 24 hours notice they can be transferred to any part of the Soviet Empire . . . and to protest is a counter-revolutionary crime."

Unification • COORDINATION • CONCENTRATION • CONSOLIDATION

An interview with the HON. MARX LEVA, *Assistant Secretary of Defense*

By Lieutenant ARNOLD S. LOTT, USN

Unification has been in effect now for two and a half years. While everyone agrees that something has been done for the defense program during that time, the value of what has been done is variously estimated, according to who makes the estimate. It isn't enough anymore to know what's in the papers; the question now is, how much of it can we believe? How *is* unification affecting the armed services? Are we on another Washington merry-go-round? Which columnist should we read? How about some facts?

Anyone can ask questions, but sometimes it takes an expert to answer them. That's why I took my questions to Marx Leva; he's been in this unification program for two and a half years. Experts have been made in less time these days.

Before answering questions, Mr. Leva was careful to point out that the Defense Department was performing an operation for which there is no standard operating procedure. "Admittedly, following a chart would make the process easier," he said, "although in my own wartime experience as navigating officer of an LST, a whole lockerful of charts didn't keep me from running my ship into a floating mine just after H-hour at Salerno. Not only are there no charts for this unification business—there are still mines floating around the Pentagon, and in carrying out our mission, we will probably continue to run into one every now and then."

The mission? Briefly, the Department of Defense is working to strengthen our national security, while maintaining a healthy national economy. Possibly a better understanding of that mission can be obtained if we take a close look at that overworked word, unification. In a recent CBS broadcast, Mr. Leva said "Unification is not an end in itself, it is only a means to an end." There are other words which he uses to describe the process by which we are trying to reach that end—coordination, concentration, consolidation. He considers unification, "not as a means of joining several arms into one service, but as a concentration of many efforts into one common purpose; a greater security, at less cost wherever possible, for the United States."

By-Products of Unification

In the two and a half years since the Unification Act of 1947 brought all the armed forces into the National Military Establishment, later termed the Department of Defense by a 1949 Act of Congress, most public discussion of unification has centered around this department. However, unification does not begin and end with the Army, Navy and Air Force, and Mr. Leva stressed this fact. "One of the principal provisions of the 1947 act created the National Security Council; this is a body, advisory to the President, to bring together foreign policy and military policy. Second, the 1947 act created the National Security Resources Board to coordinate military and economic policy. The Department of Defense was the third part of the act, and includes, besides the Army, Navy, and Air Force, the Joint Chiefs of Staff, the Armed Forces Policy Council, the Munitions Board, and the Research and Development Board. The activities of all these groups have done much to strengthen our national security."

SECRETARY MARX LEVA
"No charts . . . and mines floating."

Concentration of effort had been mentioned by Mr. Leva as one phase of unification. That was one I knew—Berlin Airlift, with Air Force, Navy and Army all blockade-busting together. Would he like to name some others? He would: "Take MATS—Military Air Transport Service, with an Air Force general in command and a Navy Admiral as his deputy. Instead of two good airlines, we have one that's better, plus increased military strength and flexibility of operation. Then we organized the Military Sea Transport Service; the Navy got that job, along with a whole fleet of freighters, transports, and tankers formerly operated by the Army. Now we're working on land transportation, and hope soon to concentrate under Army control the handling of all common use land transport for the Armed Forces.

Gas—Pills—Beans

"To go on to the next heading, coordination, I might mention our procurement program. A jeep doesn't mind where the gas comes from, so a central agency now buys, not only gasoline, but all petroleum products for the services. And since everyone has the same kind of headaches, the same agency buys the same kind of pills for everyone, as well as all other medical supplies. The Air Force buys photographic equipment for everyone,

the Navy gets coal and tools for everyone, the Army buys automotive equipment and basic food for everyone. And what the Navy says about beans for breakfast hasn't been changed a bit by the fact that the Army buys them."

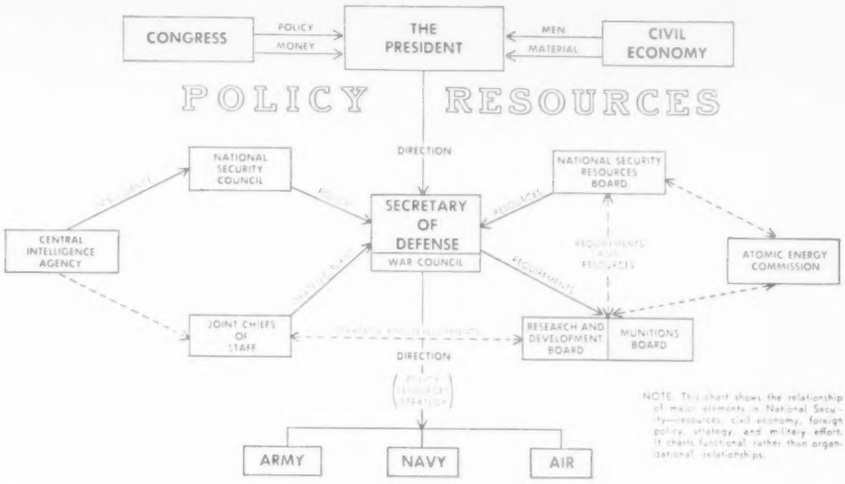
"Consolidation works the same way. Service communication facilities are now consolidated, although whether the Signal Corps has crossed their homing pigeons with seagulls I really can't say. We consolidated the worldwide military attache systems and had 30 per cent of the personnel left over, which means that the service chiefs got some of their people back, for assignment to other duties. No one is ever unhappy about getting a few more men. Then someone remembered that soldiers, sailors, and airmen, when they do get into trouble, all get into the same sort of trouble, so we unified the MPs, SPs and APs into the AFP to get them out again."

At this point I made a quick summary: increased efficiency of operation, better use of existing organizations, wider use of service facilities. No one could argue against the value of these steps; some of them might possibly have been achieved through inter-service agreement without a central unifying body. But so far unification was still up on the service level; when does the process come down through the chain of command to where John Q. Individual gets unified, I wondered.

More "Unifying"

Mr. Leva knew one answer. "On payday. You're all unified on the new pay bill. That was the result of a comprehensive study of military pay, and the first such detailed study since 1908. The legislative active producing that bill was the result of consolidated action by all the services. We're doing the same thing with military justice right now. Except for minor changes, the Army's Articles of War are still World War I issue. The Articles for the Government of the Navy haven't been changed since the day of John Paul Jones, and maybe not since Cromwell's time. We have a new code, passed by both the House and Senate, now in conference between the two to iron out some minor differences. In a short time I expect it will be in effect; it will be uniform for all ranks in all services, and will be both modern and just. And by the way, the handling of our consolidated legislative program was headed by an Army officer in 1948, by an Air Force officer in 1949 and is headed by a Navy officer today."

"Getting down to small things, we found that the three services were



NOTE: This chart shows the relationship of major elements in National Security—resources, civil economy, foreign policy, strategy, and military effort. It charts functional rather than organizational relationships.

Relationship of Elements in National Security

Unification does not begin and end with Army, Navy and Air Force.

using 45 different forms of officers' commissions, ranging from handsome big parchments for Admirals and Generals down to very small pieces of paper for ensigns—like the one I received in 1942. Here was an obvious case for unification, so we unified them all—down to the ensign size. We did the same thing with ID cards—a standard card for all active duty officers in all services."

Putting it that way, unification of the individual seemed all right so far. No pain on payday. But thirty years is a long time—how will unification affect a future career in the service—that means to the end, Mr. Leva called it.

"Don't worry, Lieutenant, you won't be compelled to join the Air Force. Although 25 per cent of the graduates of both West Point and Annapolis will join the Air Force this spring on a voluntary basis. But we are stressing joint training as a valuable way of bringing the three services into a common understanding of the problems confronting them, and such problems can come in all sizes. When we first commenced unifying, we had a public relations office with a Navy commander and an Army colonel in it. The colonel wanted to decide on an SOP for the office, and the commander, who was of course junior, maintained there should be no SOP in that office. They discussed this matter pretty warmly for a couple of days before we found out that the coloned *wanted* a Standard Operating Procedure and the captain *didn't want* a Senior Officer Present."

The Commander-in-Chief Gets a "Unified" ID Card

Big parchments were whittled down to ensign size.

Dept. of Defense photo

"Seriously, one of our most important undertakings is the National War College, where high level military education for officers in all services will fit them for assignments to command, staff, and planning duties in agencies of the DOD. Another important plan is the cross-training of service personnel, such as the training of naval fliers in AF planes and procedure, and vice versa. Another example is the Armed Force Information School in Carlisle. And as a staff agency in the Department, we have the Personnel Policy Board, set up to develop uniform policies for all military and civilian personnel in the services."

This looked like a good place to backtrack to that question of national security and national economy. Since the former requires a large military budget and the latter calls for lowered defense spending, how would Mr. Leva reconcile the two aims? "This sounds like the Hoover Commission," he said. "They said there was a great deal of extravagance and waste in military spending, and their number one remedy was an overhaul of the military budget to put it on a performance type basis, so it would show clearly where the money went. Under the old system, for instance, the Naval Medical Center at Bethesda was financed from 26 different appropriations and nobody could tell what it really cost to run Bethesda. Under the new system we won't have to look up 26 different appropriations to find out about Bethesda, we'll look up the figures on Bethesda. All three services are going over to the performance type of budget. The other recommendations of the Hoover Commission, resulting in changes in the unification act, became public law in August of 1949 and we are now operating substantially under those recommendations, as enacted by the Congress."

Military Savings and National Economy

As private citizens, we're all interested in military savings from the viewpoint of national economy; as officers, we're for efficient spending which will release more funds for better arms. What are the chances of getting both? "Here is the latest word on that subject," said Mr. Leva, riffling through the papers on his desk. "Here's the Congressional Record for April 4, with some comments by Chairman Carl Vinson on the military budget. Mr. Vinson had this to say: 'Now, I have not been one who blindly praises the Secretary of Defense. The fact is, I have voiced criticism of the Secretary now and then for various things he has or has not done. I will continue to do so in the future when it appears that the Department of Defense can benefit . . . But the Secretary has fully earned credit in a specific area pertinent to this debate . . . Secretary Johnson's report of March 2 makes it evident that he is producing savings—very substantial savings—in the administration of the defense program. This is a great public service . . . This is saving at a rate considerably higher than Secretary Johnson promised the Armed Services Committee a year ago . . . and he is, in my opinion, entitled to full credit and the compliments of the Nation for it.' Mr. Vinson then goes on to comment on what he describes as reduction in effectiveness of the armed forces, which he says are widely confused with economies under unification. Before we go on to that, let's take a look at our overall economy program."

Approaches to Economies

"We stated last year that, within a year after the amendments to the Unification Act, we expected to be saving at the rate of one billion dollars a year. The target date is August 10, 1950, and by January, 1950 we had achieved 75 per cent of that goal. Two different approaches were used to effect these economies. First, the Management Committee was established to explore these seven fields: (1) curtailment of costly warborn spending habits; (2) elimination of excess facilities; (3) elimination of overlapping and duplication; (4) simplification of procedures; (5) better use of manpower; (6) modernization of organizational structures; (7) establishment of better management controls."

"Second, we instituted a department-wide, 'all hands' effort on the part of those whose intimate knowledge of activities at the woking level could identify economies that could be made without impairing military effectiveness and, in many instances, could actually suggest ways to increase combat effectiveness with lesser expenditures of our resources. As a result of these two approaches, we were able to make a December 31, 1949 estimate of fiscal year 1950 savings and reductions and absorbed costs (on the basis of decisions and actions already taken at that time) as follows: Military Personnel Costs, $377 Million; Maintenance and Operations Costs, $508 million; Major Procurement, $435 million; Public Works Construction, $242 million; Reserve Forces, $56 million; Other military requirement, $74 million."

These are very impressive figures. When asked for their source, Mr. Leva showed me a copy of Secretary of Defense Johnson's first semi-annual report to Congress, the same report which Mr. Vinson referred to in his speech quoted from the Congressional Record. In this report, we find that the December 31 estimation of savings and reductions and absorbed costs was $1,592 million; included in this figure was a high of $169,195,000 saved on inactivation of facilities surplus to peacetime needs and a low of $74,000 saved on reduction of leased space after consolidation of activities.

There can be no disagreement with Mr. Vinson on the savings shown by these figures. The next question is, how are the armed forces benefiting?

U. S. Navy Representation in the Mediterranean

"You can't fight a war with them tied up to docks."

U. S. Navy photo

"Let's go back to the Secretary's semi-annual report," said Mr. Leva. "In the first place, this estimate includes not only savings and reductions but also what we call absorbed costs—expenditures which the DOD met out of savings without asking for a supplemental appropriation as might have been done otherwise. For example, we absorbed a cost of $339 million for pay increases of military personnel, which had been included in the President's 1950 budget as a contingent item. Another $257 million in major costs, not included in the President's budget, is similarly being absorbed."

Men and Equipment

"To get down to men and equipment, which is the only way to measure a fighting force before the fighting commences, I can give you these illustrations. On December 31, 1949, the Army had 4400 more men in combat units than it had on July 1, 1949. We have been berated very strongly for reducing the number of men in the Army, and in fact the overall strength of the Army in those six months was reduced, by a count of noses, by 20,000 men. But while the Army lost 20,000 in numbers, it gained 4400 in the number of those who comprise our combat strength."

"For the Navy, Admiral Sherman announced recently that we would send an additional carrier to the Western Pacific. The announcement came off the press the same time the Missouri came off the mud bank, and so didn't get the emphasis it would have received at another time. But it should have been a bigger story than the Missouri—the fact that with money saved by placing her in reduced commission, plus funds saved elsewhere in the Naval establishment, we will maintain in commission next year seven large carriers instead of the six provided for by the President's budget when it went to Congress last January. I think that is a particularly graphic illustration of our program for transforming fat into muscle."

"In the case of the Air Force, the Finletter Commission in 1948 recommended 70 groups manned by 401,000 men. At that time, the Air Force had 337,000 men for a programmed 55 groups. Due to increased requirements for the radar screen, functions absorbed from the Army, and organizational changes in bomber groups, 502,000 men would be required today to man the 70 group concept or its equivalent. The size of the group is subject to change, as President Truman pointed out when he said: "The number of groups is a somewhat misleading measure of airpower since the character, size, number of aircraft and other elements of the group are not fixed but constantly change as conditions require."

"Discussing this comment of the President's in his semi-annual report, Secretary Johnson said: 'An example of the type of change to which the President referred is the programmed size of each B-36 Heavy Bombardment Group—which stood at 18 planes per group less than a year ago, and which stands at 30 planes per group today. In this connection it should also be noted that the programmed size of nine groups which stood at 30 B-29's or B-50's per group two years ago, stands at 45 today. In addition, these groups include 20 B-29 type tankers which increase the effective range of each individual bomber.

In our Air Force of today and as planned for 1951, we have 416,000 men manning 48 groups, but due to the organizational changes noted above, these 48 groups, according to Air Force estimates, are equivalent to 52½ groups of the size envisaged in the previous concept of the 70 group program.'"

"To round off this discussion, I would like to point out that about two years ago the Army had reached its post-war low of 538,000 men. It now has approximately 630,000 men."

So far, we had figures on the Army and Air Force, plus an extra carrier for the Navy. Could Mr. Leva give a little better idea on the status of overall strength for the Navy? He could; he showed me a copy of a memo which he had sent to the late Secretary of Defense Forrestal in the spring of 1948, in which he had to report that of all the active vessels in the fleet at that time, 111 were tied up at docks and could not get underway because of insufficient personnel, and another 66 could leave the dock but could not operate for the same reason. "No matter how many ships you have," he said, "you can't fight a war with them tied up to docks. We do have fewer ships now, but they are manned with trained crews and they are all in fighting shape. The Navy has a lot more fighting power now than it did two years ago."

Where We Stand

There are the facts and figures, from which one may draw his own conclusions as to the fruits of unification from an economical and military viewpoint, remembering always that we must balance military force against our democratic principles of non-aggression. Where do we really stand? What do the experts say about the strength and readiness of the armed forces after two and a half years of unification? The best experts he knew, said Mr. Leva, were General J. Lawton Collins, Admiral Forrest P. Sherman, and General Hoyt S. Vandenberg, and the last word from them was contained in a March speech by Secretary of Defense Johnson to the Overseas Press Club of America. Here are three quotes from that speech:

"As for the Army, this is what General J. Lawton Collins, Chief of Staff, said to a New Orleans audience only a few days ago.

" 'We have units that are ready to move right now in case of aggression; we have the best men in the Army today that we have ever had in peacetime and, although we have a number of critical equipment problems yet to solve, I can assure you that our troops, with the equipment that they have, would give a good account of themselves if we were attacked.' "

"As for the United States Navy, let me repeat what Admiral Forrest P. Sherman, Chief of Naval Operations, has just put in a special message to all Navy personnel:

" 'Navy Department is exerting every effort to translate available appropriations into maximum fighting strength and mobilization potential. Savings made are generally available for increasing the state of readiness of authorized forces. Economies already effected have permitted increasing previously planned fleet strength by one large carrier and one cruiser, to provide additional equipment for antisubmarine warfare, and to augment general readiness. Planned economies are an important contributing factor in retaining two additional Marine battalions.' "

"I can say to you tonight, that the Air Force today is in its best state of combat readiness since the war."

There you have the latest word on unification, from those who are best qualified to judge whether it's working. Obviously, unification can never become a finished process while either national security or national economy are capable of improvement; since perfection is a quality probably never to be achieved, it appears we'll be working on unification for a long time. In such a case, Mr. Leva's definition of the means to the end, "coordination, concentration, consolidation," is well worth repeating. Remote as the final achievement of unification may be, I believe that in the past two and a half years the means to the end has been determined. We're on the way.

ATOMIC ENERGY INDOCTRINATION TRAINING IN THE U. S. ARMY—EUROPE

By

Col. Donald H. Hale, CmlC

Deputy Chief, Chemical Division, U. S. Army, Europe

"... IT WAS NOT ECONOMICAL TO OPEN A NEW SCHOOL FOR A PERIOD OF ONLY SIX WEEKS SO THE ATOMIC ENERGY INSTRUCTOR TRAINING SCHOOL WAS ESTABLISHED. THE CHEMICAL DIVISION WAS GIVEN THE MISSION OF PREPARING THE PROGRAM OF INSTRUCTION AND PROVIDING INSTRUCTORS."

The department of the Army has recently announced that military personnel and certain selected civilian employees would be given some indoctrination training in atomic energy. The United States Army, Europe was faced with the problem of preparing and delivering a series of indoctrination lectures for thousands of individuals stationed at a number of different stations.

The number of trained instructors for this work was limited and there was, therefore, a need for some plan if the personnel of the command were to be given worthwhile indoctrination training. It was decided that it would be necessary to establish a school and a course of instruction for the training of a hundred or more instructors for the atomic energy indoctrination training.

It appeared that the instructors could be trained in one week of intensive work. It was decided that the instructor training school should run for a period of six weeks and graduate six classes of students. The graduates would then return to their home stations and prepare and deliver a series of lectures for the indoctrination training of the officers of their unit or cost.

It was not economical to open a new school for a period of only six weeks so the atomic energy instructor training school was established at one of the existing service schools. The Chemical Division, US Army, Europe, was given the mission of preparing the program of instruction, lesson plans, necessary training aids and supplying the instructors. The existing school would be responsible for furnishing the necessary classrooms and housing and feeding the students.

The school was established at the Kitzingen (Germany) Training Center. The teaching staff consisted of three Chemical Corps officers and one officer each of the Medical and Ordnance Corps and the Infantry. All instructors, with the exception of the Medical officer, were graduates of one of the six weeks radiological defense schools of the Zone of the Interior. The Medical Corps officer was a graduate of one of the special schools conducted by the Medical Department. The school director was Major Simon Kinsman, Chemical Corps. Other Chemical Corps officers who taught in the school were Colonel Donald H. Hale (Chemical Division, USAREUR), Lieutenants Eugene H. Bishop, James B. Owings and Carl R. Duncan (Hanau Chemical Corps Depot) and Major William E. Campbell (Chemical Officer, US Constabulary).

The students studied nuclear physics, theory and use of radiation detecting instruments, responsibilities of the military staff for organization and training for radiological safety, effects of atomic explosions and the medical aspects of radiological defense. The nuclear physics part of the program included instruction in atomic structure, natural and induced radioactivity, decay of radioactivity, the products of the atomic fission process, shielding against radiation, atomic bombs and atomic piles.

A total of 218 students were graduated at Kitzingen. They were officers of the Army, Navy and Air Forces and some selected civilians. The following table indicates the number of students in the various categories:

Army Officers	150
Navy Officers	4
Air Force Officers	34
Civilian Employees	30

The Navy and Air Force participated in the training on an invitational basis; i.e. the two services were invited to send such students as they desired. All students were examined, at the conclusion of the training, as to their fitness to instruct in the indoctrination program. Only four students failed to qualify. This is a remarkable achievement and it is felt that this was possible only because the course of instruction and the lesson plans were carefully prepared, printed notes were furnished the students, the instructors were skilled and the commanders concerned picked the students with care. Also, the students showed a great desire to learn and worked long hours. Each evening saw a seminar in session and many of these ran until midnight.

Each student left the school at Kitzingen with a set of printed notes. These were prepared by the Chemical Division and were to be the basis of the student's indoctrination lectures for the officers of his organization or post. The indoctrination lectures are currently being given in the command and according to all reports the graduates of the school are giving a good account of themselves. Officers and civilians who have listened to the indoctrination lectures state that they have learned a great deal about the hazards of the atomic bomb and the necessary steps for radiological defense.

GROUP AND SUSTAINING MEMBERS

OF THE ARMED FORCES CHEMICAL ASSOCIATION

Abbott Laboratories, North Chicago, Illinois.
Air Reduction Company, Inc., New York, N. Y.
Allied Chemical & Dye Corporation, New York, N. Y. (S)
American Cyanamid Company, New York, N. Y.
American Zinc, Lead & Smelting Company, St. Louis, Mo.
Armstrong Cork Company, Lancaster, Pennsylvania.
Atlas Powder Company, Wilmington, Delaware.
Baker & Company, Inc., Newark, N. J.
Bechtel Corporation, San Francisco, Calif.
Blaw-Knox Construction Co., Pittsburgh, Pa.
The Bolta Company, Lawrence, Massachusetts.
Buffalo Electro Chemical Company, Inc., Buffalo, N. Y.
Casco Products Company, Bridgeport, Connecticut.
Celanese Corporation of America, New York, N. Y.
Day & Night Manufacturing Company, Monrovia, Calif.
Diamond Alkali Company, Cleveland, Ohio.
Dow Chemical Company, Midland, Michigan. (S)
E. I. duPont de Nemours & Company, Inc., Wilmington, Del. (S)
Empire Stove Company, Belleville, Illinois.
Ethyl Corporation, New York, New York.
Federal Laboratories, Inc., Pittsburgh, Pa.
The H. K. Ferguson Company, Cleveland, Ohio.
Ferro Enamel Corporation, Cleveland, Ohio.
Firestone Industrial Products Div., Fall River, Mass.
Foster-Wheeler Corporation, New York, N. Y.
Fraser & Johnston, San Francisco, Calif.
The Gates Rubber Company, Inc., Denver, Colo.
General Aniline & Film Corporation, New York, N. Y.
General Dyestuff Corporation, New York, N. Y.
The General Tire & Rubber Company, Wabash, Indiana.
Glyco Products Company, Inc., Brooklyn, N. Y.
B. F. Goodrich Chemical Company, Cleveland, Ohio.
Goodyear Tire & Rubber Company, Akron, Ohio.
Gulf Oil Corporation, Pittsburgh, Pa.
Handy & Harman, New York, N. Y.
The Harshaw Chemical Company, Cleveland, Ohio.
The Heil Company, Milwaukee, Wisconsin.
Hercules Powder Company, Wilmington, Delaware.
Heyden Chemical Corporation, New York, N. Y.
Hooker Electrochemical Company, Niagara Falls, N. Y.
Industrial Rubber Goods Company, St. Joseph, Michigan.
International Nickel Company, Inc., New York, N. Y.
Jefferson Chemical Company, Inc., New York, N. Y.
Julius Hyman & Company, Inc., Denver, Colorado.
Koppers Company, Inc., Pittsburgh, Pa.
Arthur D. Little, Inc., Cambridge, Massachusetts.
Mathieson Chemical Corporation, New York, N. Y.
Merck & Company, Inc., Rahway, New Jersey.
Monsanto Chemical Company, St. Louis, Missouri.
National Can Corporation, New York, N. Y.
National Fireworks, Inc., West Hanover, Mass.
Niagara Alkali Company, New York, N. Y. (S)
Oronite Chemical Company, San Francisco, Calif.
The Ralph M. Parsons Company, Los Angeles, Calif.
Pemco Corporation, Baltimore, Maryland.
Pfister Chemical Works, Inc., Ridgefield, New Jersey.
Chas. Pfizer & Company, Inc., Brooklyn, N. Y.
J. V. Pilcher Manufacturing Company, Louisville, Kentucky.
Pittsburgh Coke & Chemical Company, Pittsburgh, Pa.
Pittsburgh Plate Glass Company, Barberton, Ohio.
Rheem Manufacturing Company, New York, N. Y.
Rohm & Haas Company, Philadelphia, Pa.
Rowe Manufacturing Co., Inc., Whippany, N. J.
Shell Development Company, San Francisco, Calif.
Sheller Manufacturing Co., Dryden Rubber Div., Chicago, Ill.
The Sherwin-Williams Company, Cleveland, Ohio.
Standard Oil Company (Indiana), Chicago, Illinois.
Standard Oil Development Company, New York, N. Y.
Stauffer Chemical Company, New York, N. Y.
Stewart Die Casting, Chicago, Illinois.
Sun Oil Company, Philadelphia, Pa.
Tennessee Eastman Corporation, Kingsport, Tennessee.
The Texas Company, New York, N. Y.
Union Carbide & Carbon Corporation, New York, N. Y.
United Carr-Fastener Corporation, Cambridge, Mass.
United States Rubber Company, New York, N. Y.
The U. S. Stoneware Company, Akron, Ohio.
Victor Chemical Works, Chicago, Illinois.
The Vulcan Copper & Supply Company, Cincinnati, Ohio.
Wallace & Tiernan Products, Inc., Newark, N. J. (S)
Witco Chemical Company, Chicago, Ill.
World Steel Products Corporation, New York, N. Y.
Wyandotte Chemicals Corporation, Wyandotte, Michigan.
Zaremba Company, Buffalo, New York.
Zenith Plastics Company, Gardena, California.

(S) indicates Sustaining Members.

1/2 O'clock Noon*

OUR PROBLEM IS NOT ONE OF DEALING WITH THE ADMITTED COMMUNISTS AND THE ADMITTED SOCIALISTS, BUT—FAR MORE DIFFICULT—OF STEMMING THE SOCIALISTIC TRENDS AND IDEAS WHICH HAVE BEEN INFILTRATING OUR TRADITIONAL AND PRESUMABLY RESPECTABLE INSTITUTIONS.

By
Leland I. Doan, President
The Dow Chemical Company

Nineteen-fifty . . . is a year to reckon with. I pray we will reckon well.

The number itself is psychological. It is a nice, round number. It is the twelve o'clock noon of the 20th century.

So all over the country communities and organizations are just naturally going to take time out to review the past. They're going to celebrate. They're going to pat each other on the back. And they're going to brag a bit.

Well, that's all well and good. The back-patting, the bragging, the celebrating are certainly well deserved. Even though we were to borrow all the adjectives in Hollywood we would be at a loss to aptly describe the past fifty years. Never in history has there been a like period when the lives of so many people have been affected so often, and so much, by so many things. And we here in America have had ringside seats.

We have fought and won two wars, of course, although as yet we have failed to win the peace from either. We have seen the maps of the world re-drawn . . . and we have seen them shrink to postage stamp size . . . because in these fifty years we have, among other things, conquered time and space.

It has become commonplace to transact business in Chicago or St. Louis in a few moments through an instrument on the corner of our desk . . . to hear music or a ball game being played in New York or California. If we want light, we flip a lever on the wall, and if we want it warmer we adjust another. Still another gives us instant heat to cook our dinner.

If you really want to know what has happened in the last fifty years, start in tomorrow morning when you get out of bed and analyze every move you make until you go to bed again. And with each move ask yourself, "How would I have done this fifty years ago? Or would this even have been possible?"

We walk the same, we talk the same, we see, hear, smell, taste and feel. We know love and hate, joy and sorrow. But those bodily actions, senses and emotions are just about the only things in our lives that are like what they were in 1900. And even those have all felt the influence of the things that have happened since that time.

Yes, countless intimate, physical things surrounding our lives have been created and improved. But there have been less obvious things, too.

In 1900 education was pretty elementary . . . and medical care likewise, when judged by today's standards. Men—and boys, too—toiled ten, or more likely twelve, hours a day to earn three squares, clothing and shelter. Leisure time was a scarce commodity . . . vacations the exclusive right of a select few.

Today college education is, I think, almost more the rule than the exception. The modern physician has at his command knowledge, drugs, and facilities that would have been literally miraculous in the eyes of his grandfather. The average man works eight—not ten or twelve—hours a day, has a paid vacation and the means to make it enjoyable. And while we think prices are high, the money he earns in eight hours will buy more goods than ever before in history.

Yes, if ever people had cause to celebrate, we have it—for our accomplishments as a nation of free people.

But for all this my mind keeps turning in another direction. In this noontime of the century *we are still only half through the day* . . . and there is always tomorrow. At lunch we are prone to remark to our companions, "This morning I wound up such-and-such a deal." And later we will probably say, "This afternoon I must look into This," or "Right after lunch I must take care of That."

There *are* some things we had better take care of . . . and right after lunch may hardly be soon enough.

I wonder how the *future* historian will sum up the first half of our century. I wonder what he will say of 1950.

I wonder, for example, if our grandchildren, taking a federally prescribed course of education, will one day read their history books something like this:

"The year 1950, to all intents and purposes, saw the end of free Capitalism in the United States. While another ten years were consumed in bringing about complete national control of all business, the victory of the Welfare State was essentially fact by the middle of the century. Clinging to their sentimental notions of private ownership and freedom of endeavor, the owners and managers of business and industry none-the-less failed to convince the people of the merit of what they called 'free enterprise'

*This article is based upon an address by Mr. Doan at the annual meeting of the Bay City (Mich.) Chamber of Commerce.

and the elections of 1952 left no doubt that the American people favored the security of State planning and paternalism.

"The victory of the Welfare State did not, of course, come about overnight. It was won by successive stages over several decades. The great depression of the thirties and the great war of the forties which followed hastened it by disturbing the normal operation of the old system. This gave early progressive planners an opportunity to educate the populace to accept controls over prices, wages and the purchase of certain commodities, as well as intermittent direct control over certain industries. And with the high wages prevailing in the 40's the people appeared quite willing to turn over much larger portions of their income to the government to be used in providing welfare services, in stimulating food prices through farm subsidies . . ."

Does such a prospect scare you? Or do you think it can't happen here?

I can remember when Hitler was a comic little man with a trick mustache. I can remember when we joked about Russia's "five year plan." We didn't think it would last five years.

Only a few years ago Britain was the very symbol of stalwart stability among nations. The world virtually revolved on the pound sterling. Could it possibly be significant that the recent devaluation of the pound caused little more than a momentary flutter of speculation and anxiety on this side of the Atlantic? Today, both she and her Socialistic leaders are clinging by their fingernails from the top window ledge of her tower of Socialism. And we here in America are helping them in their frantic efforts to keep the tower itself from falling apart.

Well, these things scare *me*. I don't like to say "scare" . . . but I'm afraid "disturb" would be quite an understatement. In any event, I'm not alone in my thinking. There's a recurrent question afloat these days. It's been the subject of some public debate, and a number of public speeches. It goes like this: "Are we slipping (or sneaking) into Socialism?"

Some of our country's leaders have laughed at this question. But not the way you may think. They have said: "No, we aren't *slipping* into Socialism. We are *dashing headlong* into it."

* * *

A few weeks ago Fr. Edward A. Kellar, director of the Bureau of Economic Research of Notre Dame University, mentioned this in addressing a group of public relations people—people who in one way or another do much of the talking for American industry. And he made what is to me a horrifying statement. He said: "I am not going to tell you, 'It is later than you think.' I am telling you . . . *you have two years* . . . at the most."

Unfortunately, there is evidence to support Father Kellar's statement. Consider just two current movements—the agitation for socialized medicine and the outbreak of anti-trust actions which appear definitely to be aimed more at *bigness* in private business than at the *conduct* of the business.

These, certainly, are straws in the wind. But I wonder if they aren't much *more* than that. The first, it appears to me, is the most obviously Socialistic scheme that has ever been openly proposed on a national scale. If the American people buy *that* scheme they will buy others. The second, while perhaps not ostensibly socialistic, appears to me as *an unprecedented effort to exert peacetime governmental control over industry beyond the intent of our existing laws.*

Our problem is not one of dealing with the *admitted* Communists and the *admitted* Socialists, but—far more difficult—of stemming the socialistic trends and ideas which have been infiltrating our traditional and presumably respectable institutions . . . our old line political parties, our educational institutions, yes, even some of our churches. Of course they do not carry the labels of socialism, but rather travel under such appealing names of medical *insurance*, *welfare* economy, *planned* economy and so on. We are not up against visible antagonists, but insidious ideas attractively packaged.

Nor are we up against some set "day of confiscation" of all private business, but against the *gradual* encroachment of government control which will perhaps ultimately leave today's businessman with all his present responsibilities but without his present remunerations, incentives and opportunities.

Britain's Socialist government has by no means taken over *all* business—just Credit, Communications, Civil Aviation, Transport, Coal Mines, Electricity, Gas, Medical Service. That's all. With those, of course, *she can control any business . . . to any degree she sees fit.* And her remaining "private" industry now has the responsibility of trying to make enough money to cover the operating losses sustained on those she *has* taken over.

Regrettably, her failures and dilemmas do not seem to be cooling even slightly the ardor of the planners who are working toward the same sort of system here. We are *today* in *this* country going through much the same sort of social and economic "reforms" Britain went through before her government became openly Socialist.

If you want to see the parallel between Britain and the United States you might read John T. Flynn's "The Road Ahead." It is *not* conducive to pleasant dreams, however.

Or—let's take a current issue. Today, while Britain teeters in indecision on the question of "taking over" steel, we here in America read in our papers statements like this:

"The report (of a majority of the Joint Congressional Committee on the Economic Report) recommended that steel producers hereafter be required to file with an 'appropriate agency of the Federal Government' their schedules of proposed industry-wide price increases.

"Increases would be deferred 30 days pending a public hearing to determine the reasons and the economic effect of the proposed price hikes."

A minority report of the Committee was in complete disagreement and said among other things: "If the majority thinks there is a steel monopoly it ought to present its case to the Justice Department and ask for prosecution under the Sherman Anti-Trust Act."

I'm not attempting to judge the merit or demerit of steel prices or increases, or the degrees of competition and public interest involved. But the close parallel—between these statements and the British problem—should be appalling to any good American.

Peacetime price control is just one step in "socializing" industry.

And the question—the *vital* question is not the fairness of steel prices, but *this*: If some wrong does exist in the steel industry . . . are we going to cure it the American way or the Socialist way?

You know, sometimes I get the uncomfortable feeling that we have created so many toys for ourselves in the last fifty years that they're taking our attention away from the fundamentals of our existence. I'll wager a lot of people spend more time trying to figure out the week's "mystery tune" than they do the qualifications of the man who gets their vote for Congress.

Well . . . I wonder. Are *we* right, or are the planners right? Is this system of ours any good? This system that says a man may work according to his own choosing . . .

that says a man is entitled to the rewards of his own toil . . . that says his savings are also entitled to profit if he wishes to risk them in the creation of new productive power . . . that says his opportunities for self-betterment are limited only by his own willingness and ability to serve others with his hands or his brains . . . that says that so long as men compete honestly and openly the public interest will be served, and the dishonest will, in the long run, engineer their own downfall?

It is now, never has been, *perfect*. Nor for that matter has anything which man has ever created been perfect. But I know one thing. *The things we have accomplished in this country since 1900 have not resulted from any "master plan" set up* in that or any other year. Nor have they resulted from any paternalistic promise of "security."

No . . . they have resulted rather from men working to make their own security . . . from men, in competition with each other, trying to do a better job, to invent a better mousetrap, to open a new frontier in the knowledge that *America rewards achievement—not subservience.*

As a people we are, I think, generous, humane and thoughtful of our fellow man. And we find joy in accomplishment for its own sake. But no one would claim that our successes have resulted entirely, or even largely, from altruistic motives. They have come from our individual attempts at self-betterment—which is just apart of the natural law of self-preservation.

The trouble, perhaps, is that because our motivating forces have been inherently selfish those motives are now being questioned without regard to the human benefits that spring from them. Our measuring stick is the *dollar* rather than the *product* or the *service.*

Well . . . this year we are going to *be* looking at some of those human benefits. We are going to be comparing 1950 with 1900. And perhaps we will be saying, "Just look at all these wonderful things that have happened in fifty years."

But that isn't quite true . . . because they didn't just *happen. They* were *created*—by American hands and American brains—because our American system gave those hands and those brains the *incentive* to create. I wonder if as we celebrate our achievements we can somehow adequately tell the tremendous story that lies behind them.

You can see this story in hundreds of communities throughout the country. You can see it in Midland, Michigan. Herbert Dow, a young lad of 25, came to Midland with an idea.

Why? He wanted to make some money . . . a perfectly simple human desire that's just as prevalent today as it was in 1890.

But he needed money to even get started . . . and he didn't have any. So he used someone else's. How could he do that? Why, because those people wanted to make some money too . . . and they thought maybe they could do it with his idea. *Those* men were *capitalists!*

Well . . . they did make some. And a lot of others have since. And today more than 19,000 capitalists are hoping, and are making some money by letting the company that Herbert Dow started, use their savings.

Now you could complete the story, perhaps, by saying that today that company has an annual income of more than $200,000,000. And that it returns to these capitalists eight or ten million dollars a year in dividends.

But I wonder if that *is* the story? Is it of any possible human significance that 15,000 men and women today earn decent, respectable livings from jobs that are in existence because some "capitalists" wanted to make some money with their savings . . . and lived under an economic system that permitted them to do so?

Is it of any possible *human* significance that in your daily lives you can scarcely touch a thing that has not been made possible or made better because of one or more of the 600-odd products that have come from the business Herbert Dow and those capitalists started?

Is it of any significance to the people of Midland that the city they live in has, directly or indirectly, shared in the rewards that have come to that company because its goods and services have found favor in competition with those of other companies?

We have, in this economic system of ours, the best product the world has ever known. We're supposed to be the best salesmen in the world. We have the most intelligent all-around group of customers . . . and they've had a long and on-the-whole very satisfactory demonstration. Is it possible that *we* can't keep *that* product sold to *those* people . . . that we're going to lose out to a piece of merchandise that has *never* offered anything but *promises*—and as yet has not made good on them in the countries that have bought it?

I don't think so. But it's going to take some *selling*—in every way we know how . . . in every place we can tell the story . . . in our schools, our clubs, our social gatherings . . . yes, right down to the level of street-corner conversation. For it is at that level that much of the anti-profit, anti-capital, anti-big-business talk circulates.

Yes . . . not only can we well afford to . . . we *must*—if we care a tap for our economic and social freedom—*salute* American industry.

WE'VE BEEN ASKED

May an officer draw social security payments at age 65 in addition to (a) non-disability retirement pay; (b) disability retirement pay and (c) Veterans Administration disability compensation?

Yes, to all three.

* * *

Is the Army Surgeon General still so completely opposed to allowing disability retirement based mainly on arthritis?

Yes. He still contends that arthritis as well as most diseases of the circulatory system are diseases that develop with age and therefore must have existed prior to an officer entering extended active duty.

I have a 30% disability from the VA as a result of service connected disability. After being separated and in civil pursuits for a period of time I requested permission to appear before an Army medical board for retirement consideration but this was denied. Does the new Career Compensation Act have any bearing on my situation?

There is no provision in the Act which entitled an individual drawing disability compensation from the VA to be rated and given disability retirement pay. Your only procedure is to write the Army AG requesting permission to go to an Army hospital for observation and determination of right to appear before a Retiring Board.

NEWS OF INDUSTRY

WYANDOTTE ELECTIONS — APPOINTMENTS

Vice President

FORD BALLANTYNE, JR.

Ass't to President

WILLIAM R. DAY

Wyandotte Chemicals

Election of Ford Ballantyne, Jr., to a vice presidency of Wyandotte Chemicals Corporation has been announced by Robert B. Semple, president. Ballantyne, 34, a desecendant of the company's founder, has been assistant to the president and secretary of the corporation.

Meanwhile, William Day, 45, head of the patent section of the research and development division, was appointed assistant to the president, and director of the company's legal activities.

The promotions followed the annual shareholder's meeting.

Officers reelected included: Emory M. Ford, chairman of the board; Robert B. Semple, president; Ford Ballantyne, Sr., vice president and treasurer; Ford Ballantyne, Jr., secretary; S. T. Orr, vice president-manufacturing; Bert Cremers, vice president-Michigan Alkali Sales Division; G. W. Schwarz, vice president-controller, and T. H. Vaughn, vice president-research & development.

* * *

Ethyl Corporation

The appointment of William T. Hack as manager of the product development department has been announced by Ethyl Corporation. A former member of the product development staff, he first joined Ethyl in 1946 and resigned two years later to accept appointment as director of the chemical and rubber division of the National Security Resources Board, Washington, D. C.

* * *

Dow Chemical Company

J. P. Murphy has been transferred from Dow Chemical Company's Magnesium Technical Service and Development Group to the Magnesium Sales staff of the company's Chicago, Ill., sales office.

L. J. Richards, chief engineer of Dow Chemical Company's Midland, Mich., division since 1934, has been named director of engineering, according to Dr. Mark E. Putnam, vice president and general manager. Simultaneously, E. R. MacLaughlin was advanced to head the Midland division's engineering department.

* * *

Pittsburgh Plate Glass

Appointment of Albert D. Wagen as Pacific Coast Divisional Director for Pittsburgh's paint division has been announced by E. D. Griffin, vice president. As divisional director, Mr. Wagen succeeds Louis F. Theurer who retired after 31 years service with the paint division.

Appointment of Thomas C. Hardwick as sales representative at Charlotte, N. C., for the Columbia Chemical Division has been announced by W. I. Galliher, executive sales manager for the division.

Pittsburgh Plate Glass Company will spend nearly $2,000,000 on buildings and equipment in expanding its window glass producing facilities at Mt. Vernon, Ohio. Productive capacity of the plant will be increased 50%, making it the firm's largest sheet glass producer, according to Harry B. Higgins, president.

* * *

American Cyanamid Company

American Cyanamid Company has announced the formation of the Dyes and Chemicals Export Department which will handle all foreign activities in connection with the products of the Company's Calco Chemical Division (except Pharmaceuticals), Industrial Chemicals Division, and Plastics and Resine Division. The combined department will be under the direction of Fraser M. Moffat, Jr.

H. E. (Whitey) Lorenz has been appointed Manager, and J. C. Martin, Assistant Manager, of the Eastern Hemisphere and all activities in that area. Henry W. Rojas is appointed Manager, and W. T. Casey, Assistant Manager, for the Western Hemisphere and all activities in that area.

J. L. Clark, formerly Export Sales Manager of Calco Division, is assigned to special duties under Mr. Moffat.

Industrial Chemicals Division of American Cyanamid announces the appointment of Robert W. Lull as West Coast Sales-Service Engineer for the Company's Paper Chemicals Department. His function will be to work with Edward Garrison, Paul Ochs and Herb Pratt, West Coast Sales representatives of the Cyanamid organization.

* * *

Abbott Laboratories

Two promotions in Abbott Laboratories sales organization are announced by Dr. E. H. Volwiler, president and general manager.

David D. Stiles, associate director of sales, has been appointed director of market development and Herbert S. Wilkinson, general sales manager, has been appointed director of sales.

* * *

Hercules Powder Company

A special assignment in the Sales Research Division has been tendered Henry N. Marsh, formerly manager

of the Explosives Department's Smokeless Powder Division. Frederick M. Hakenjos has been appointed to the newly created post of manager of Smokeless Powder Sales.

Mr. Marsh is well known in sporting powder circles, having been identified with rifle, pistol, trap and skeet shooting activities for many years. He has been a member of the Board of Directors of the Wild-life Management Institute since 1947.

Mr. Hakenjos was an executive assistant with the National Rifle Association from 1934 to 1941, when he joined Hercules' Smokeless Powder Division in March of the latter year.

* * *

Mathieson Chemical Corporation

Production of agricultural insecticides and fungicides at Little Rock, Ark., and Williamston, N. C., began in May with another plant at Houston, Texas, operating that same month.

All of the new units are located in convenient proximity to Mathieson's fertilizer plants or distributing warehouses in those cities.

D. R. Stoneleigh, newly appointed manager of the Agricultural Specialties Branch of the Agricultural Chemicals Sales Division, is in charge of sales and distribution of products from the three new plants.

* * *

Dr. Thomas H. Daugherty, assistant director of research, has been named director of research replacing Dr. Everett P. Partridge, who has been appointed director of Hall Laboratories, Inc., an associated firm in the Hagan Corporation group.

Dr. Daugherty during World War II served in the Chemical Warfare Service as Chief, Chemical Development Division, R & D Laboratory, MIT. As commanding officer of the R & D Division, OSS Detachment 101, he saw considerable action in the CBI theater and was awarded the Presidential Unit Citation.

DR. THOMAS H. DAUGHERTY
Director of Research Calgon, Inc.

Diamond Alkali Company

John M. Urban, foundry superintendent and metallurgist for the Fanner Manufacturing Company in Cleveland, Ohio, since 1939, has been appointed a technical service representative in the Coke Sales Department of Diamond Alkali Company.

In his new capacity with Diamond, Mr. Urban will contact gray iron foundries and other users of industrial coke in the Northern Ohio, Western Pennsylvania, Western New York and Southeastern Michigan area.

John W. Mantz, for the past two years industrial relations manager at the Painesville (Ohio) Plant of Diamond, has been promoted to the newly-created position of assistant general manager of the plant, according to M. O. Kirp, general manager.

In making the announcement, Kirp also said that Mantz will be succeeded as industrial relations manager by C. R. Brown, former director of industrial relations at National Enameling and Stamping Company, Milwaukee, Wis.

* * *

Ferguson Official Recommends CONSTRUCTION MOBILIZATION PLAN

Speaking before a seminary at the Industrial College of the Armed Forces in Washington, Otto F. Sieder, Executive Vice President and General Manager of The H. K. Ferguson Company, advocated the development of a "Blueprint for Mobilization of the Construction Industry."

Mr. Sieder, who was civilian Chief of the Industrial Construction Division in the Corps of Engineers during WW II, recommended the immediate establishment of a committee composed of Army, Navy and Air Force officers and representatives of leading engineering and building concerns to set up the program. In his former capacity with the Corps of Engineers, Mr. Sieder directed a wartime design and construction program which resulted in $4,000,000,000 worth of new plant facilities in the United States.

"One of the first duties of such a committee," Mr. Sieder said, "would be to make a thorough study of the experience of World War II, and in the light of that experience develop procedures which will enable the military services to purchase engineering and construction services more expeditiously and more economically in the event of future mobilization."

The absence of such a plan at the start of World War II resulted in some discrepancies which could have been avoided, according to Mr. Sieder. In the interest of speed, certain inequities showed up that worked against both the Government and independent engineers and builders.

"The forms of contract employed by the various military services were in the state of continual revision throughout the war," Mr. Sieder said.

"Fee schedules were not standardized, nor were standard procedures set up to handle terminations and renegotiations. As a result, it was difficult for contractors to determine their financial status on Government projects until many months, or even years, after the work was completed. Moreover, there was no specific formula available for either contract termination or re-negotiation."

Another of Mr. Sieder's recommendations to high-ranking officers at the Industrial College of the Armed Forces was that the capabilities and specialties of engineering and construction concerns be reviewed by the proposed joint military-industry committee and catalogued to serve as a reference in the event of an emergency building program. Such information would enable the military to set into immediate motion a large-scale construction undertaking with firms qualified in the categories required.

The importance of setting up a workable mobilization plan is indicated by the large expenditures made in the past war for new industrial plants in this country. An estimated $28,000,000,000 (twenty-eight billion) was spent for this purpose, most of it from Government sources such as the Army, Navy and Defense Plant Corporation, a subsidiary of the Reconstruction Finance Corporation.

Even though comparatively large sums of money have been spent by industry itself in the postwar period, Mr. Sieder believes that additional expenditures of great magnitude would be required for new industrial plants in the event of a future war.

"The mass production of guided missiles, jet-propelled aircraft, atomic and newly-developed chemical weapons will require plant facilities not now available," he said.

* * *

Hercules Powder Company

A new and very effective resin for wet-strength papers is the newest addition to Hercules array of chemicals for the paper industry. The new resin, called "Hercules Resin 138," is specially designed so that papers will retain a high proportion of the resin, which assures excellent wet-strength efficiency.

A small folder, describing the new resin and its many advantages, is available from the Company—Wilmington, Del.

CHEMICAL CORPS KEY PERSONNEL

OFFICE, CHIEF, CHEMICAL CORPS, WASHINGTON 25, D. C.

Chief, Chemical Corps, Maj. Gen. Anthony C. McAuliffe.
Deputy Chief, Brig. Gen. E. C. Wallington, Cml C.
Chief, Personnel Div., Col. R. C. Benner, Cml C.
Chief, Plans, Training & Intelligence Div., Col. J. C. MacArthur, Cml C.
Comptroller, Lt. Col. J. J. Hayes, Cml C.
Chief, Safety Office, Lt. Col. C. P. Holm, Cml C.
Executive Officer, Maj. J. O. Quimby, Jr., Cml C.

ARMY CHEMICAL CENTER, MARYLAND

Commanding General, Brig. Gen. E. F. Bullene, Cml C.
Commanding Officer, Edgewood Arsenal, Lt. Col. E. Van Keuren, Cml C.
Commandant, Cml Corps School, Col. Geoffrey Marshall, Cml C.
Commanding Officer, Technical Command, Lt. Col. J. H. Rothschild, Cml C.
President, Cml Corps Board, Col. H. W. Rowan, Cml C.
Chief, Medical Div., Lt. Col. M. W. Bayliss, MC.
Chief, Cml Corps Procurement Agency, Lt. Col. W. H. Greene Cml C.; Small Business Liaison, Mr. H. Parks.
Commanding Officer, Edgewood Proving Ground, Lt. Col. Emory A. Lewis, Cml C.

WESTERN CHEMICAL CENTER, TOOELE, UTAH

Commanding Officer, Col. R. T. Bourket, Cml C.
Executive Officer, Lt. Col. K. A. Cunin, Cml C.

PINE BLUFF ARSENAL, PINE BLUFF, ARKANSAS

Commanding Officer, Lt. Col. H. S. Markham, Cml C.
Executive Officer, Maj. T. W. Rogers, Cml C.

ROCKY MOUNTAIN ARSENAL, DENVER, COLO.

Commanding Officer, Col. C. M. Kellogg, Cml C.

CAMP DETRICK, FREDERICK, MARYLAND

Commanding Officer, Maj. H. J. Isbell, Cml C.

ATLANTA CHEMICAL PROCUREMENT DISTRICT, 114 MARIETTA ST., N.W., ATLANTA, GA.

Commanding Officer, Lt. Col. W. L. MacLachlan, Cml C.

BOSTON CHEMICAL PROCUREMENT DISTRICT, BOSTON ARMY BASE, BOSTON, MASS.

Commanding Officer, Lt. Col. W. E. R. Sullivan, Cml C.

CHICAGO CHEMICAL PROCUREMENT DISTRICT, 226 W. JACKSON BLVD., CHICAGO, ILL.

Commanding Officer, Lt. Col. E. J. Collins, Cml C.

DALLAS CHEMICAL PROCUREMENT DISTRICT, 1114 COMMERCE ST., DALLAS 2, TEXAS.

Commanding Officer, Maj. A. C. Hamilton, Cml C.

NEW YORK CHEMICAL PROCUREMENT DISTRICT, 111 E. 16TH ST., NYC.

Commanding Officer, Lt. Col. J. F. Escude, Cml C.

SAN FRANCISCO CHEMICAL PROCUREMENT DISTRICT, FORT MASON, CALIF.

Commanding Officer, Col. J. M. McMillin, Cml C.

SAN JOSE PROJECT, OFFICE, CHIEF, CHEMICAL CORPS, ST. THOMAS, VIRGIN ISLANDS.

Commanding Officer, Col. Paul R. Smith, Cml C.

CHEMICAL CORPS OFFICERS WITH THE ARMY FIELD FORCES.

Headquarters, AFF, Fort Monroe, Virginia.
Chemical Officer, Col. L. M. Johnson, Cml C.
Headquarters, First Army, Governors Island, New York.
Chemical Officer, Col. J. R. Burns, Cml C.
Headquarters, Second Army, Fort George G. Meade, Maryland.
Chemical Officer, Col. J. W. Mosteller, Jr., Cml C.
Headquarters, Third Army, Fort McPherson, Georgia.
Chemical Officer, Col. R. D. McLeod, Cml C.
Headquarters, Fourth Army, Fort Sam Houston, Texas.
Chemical Officer, Lt. Col. H. R. Sanford, Cml C.
Headquarters, Fifth Army, 1660 E. Hyde Park Blvd., Chicago 15, Ill.
Chemical Officer, Col. H. B. Bramlet, Cml C.
Headquarters, Sixth Army, Presidio of San Francisco, Calif.
Chemical Officer, Col. S. E. Whitesides, Jr., Cml C.

CHEMICAL CORPS OFFICERS RESERVE CORPS INSTRUCTORS.

FIRST ARMY AREA

Capt. J. N. Klein, Office of Sr. State ORC Instructor, 90 Church St., New York City.
Capt. R. G. Lynch, Office of Sr. State ORC Instructor, Kearny Shipyards, Kearny, New Jersey.
Lt. Col. Fred A. Jacobs, Office of Sr. Instructor ORC, 8th Fl. Sec. "F," West Army Base, Boston 10, Mass.
Capt. P. Schneider, ORC Instructor, Newark, N. J.

SECOND ARMY AREA

Maj. Julian J. Douglas, Ohio Military District, Ft. Hayes, Columbus, Ohio.

THIRD ARMY AREA

Lt. Col. C. B. Drennon, Jr., Alabama Military District, 4th Fl., Calder Bldg., Birmingham, Ala.
Capt. L. H. Evans, Jr., 101 Cone St., Atlanta, Ga.
Maj. E. Escudero, 1401 Hampton St., Columbia, S. C.
Maj. A. D. Alston, ORC Instructor-at-Large, Georgia Military District, 699 Ponce de Leon Ave., NE, Atlanta 3, Ga.

FIFTH ARMY AREA

Capt. L. E. Wagner, Illinois Sr. Army Instructor ORC, 1660 E. Hyde Park Blvd., Chicago, Ill.
Capt. G. E. Allard, 310 Federal Office Bldg., Third Ave. and Washington Ave., S. Minneapolis, Minn.
Maj. C. H. White, 12th and Spruce St., St. Louis, Mo.
Capt. V. Deptula, Michigan Sr. Army Instructor ORC, 463 Federal Bldg., Detroit 26, Mich.

SIXTH ARMY AREA

Capt. Morris W. Lofton, Northern California-Nevada ORC Instructor Group, Presidio of San Francisco, Calif.
Capt. E. F. Them, Washington State ORC Instructor Group, Fort Lawton, Washington.
Maj. Jack R. Whitley, Southern California ORC Instructor Group, Fort MacArthur, California.

THEATER CHEMICAL OFFICERS

EUROPEAN THEATRE, Col. L. E. Loucks, Chemical Div., Hqs., EUCOM (Rear) APO 403, c/o PM, New York, N. Y.
FAR EAST COMMAND, Col. D. King, Chemical Section, GHQ, FEC, APO 500, c/o PM, San Francisco, Calif.
PACIFIC THEATRE, Lt. Col. R. W. Breaks, Chemical Officer, US Army Pacific, APO 958, c/o PM San Francisco, California.
CARIBBEAN THEATRE, Col. R. E. Johnson, Box 477, Fort Amodor, Canal Zone.

CHEMICAL CORPS ROTC INSTRUCTORS.

Lt. Col. J. W. Fitzpatrick, 1180th ASU ROTC, Massachusetts Institute of Technology, Cambridge 39, Mass.
Lt. Col. M. A. Peerenboom, 2406th ASU ROTC, The Ohio State University, Columbus 10, Ohio.
Lt. Col. N. I. Decker, 3216 ASU, ROTC Instructor, Georgia School of Technology, Atlanta, Ga.
Lt. Col. L. S. Moore, Military Dept., Texas A. & M., College Station, Texas.
Lt. Col. L. B. Cottingham, Military Dept., Purdue University, Lafayette, Indiana.

TRENDS IN MILITARY RESEARCH AND DEVELOPMENT*

DURING THE WAR, OUTSTANDING RESULTS WERE ACHIEVED THROUGH LARGE-SCALE USE OF RESEARCH AND DEVELOPMENT CONTRACTS AND THIS PRACTICE HAS BEEN FOLLOWED SINCE THE WAR WITH CONTINUED SUCCESS. THIS ARTICLE TELLS HOW!

By Louis Johnson
Secretary of Defense

Basic Research[1]

Basic research represents the broad base of theoretical knowledge and new ideas from which all applications, military and otherwise, must be drawn. If basic research already flourished independently in our universities and industrial organizations, the need for Government sponsorship in this area would not exist, or at least it would not be required on the present scale. In the past the United States has drawn heavily upon the basic research of Europe for ideas, while it excelled in practical applications and engineering.

Scientific Research and Development

Although there is a growing body of fundamental science in the United States today, the reservoir is not yet great enough to compensate for the drains made upon it and for the destruction of European science by the war. The military departments are therefore sponsoring limited programs in fundamental science until such time as the United States has caught up in this area. They are also supporting the proposed legislation for a National Science Foundation. The country is also interested in the early rehabilitation of European science as part of the storehouse of general knowledge.

Studies directed toward the advancement of scientific knowledge in the fields of mathematics, physics, chemistry, mechanics, and metallurgy, and toward the development of new materials and apparatus of potentially wide application are carried out under the auspices of the military departments.

The largest support is contributed by the Office of Naval Research through its university research program under which about 700 projects are being carried out in 150 institutions at an approximate annual expenditure of $15,000,000. A considerable amount of work in the basic physical sciences is also being performed at the Naval Research Laboratory. While this research is directed, in general, toward ultimate practical applications, it frequently contributes directly to the advancement of fundamental science.

The Air Force recently established the Office of Air Research to support programs of basic research in universities and other nongovernmental institutions and to conduct research in its own laboratory. The members of the scientific staff of the Office of Air Research will also act as consultants to the engineering agencies of the Air Force.

[1] In the field of atomic energy, the basic nuclear research program has been integrated with that of the Atomic Energy Commission; and the national nuclear power programs have been integrated within the National Military Establishment, the Atomic Energy Commission, and the National Advisory Committee for Aeronautics. Military aspects of atomic energy are coordinated by the Military Liaison Committee, which with the addition of civilian members also serves as the Atomic Energy Committee of the Research and Development Board.

*This article is an excerpt from the Second Report of the Secretary of Defense for the Fiscal Year 1949.

Scientific Information

The large volume of scientific information stemming from military research and development activities and the need for prompt dissemination and adequate cross-exchange of information have led to several projects directed toward improved dissemination of scientific information.

The Office of Naval Research maintains at the Library of Congress the Navy Research Section which is collecting and cataloging all scientific and technical reports of the Navy Department. It publishes the Technical Information Pilot containing abstracts of reports received, and supplies catalog cards on the reports abstracted. The Department of the Army has completed plans for the establishment of an Army-wide technical reference service for the collecting, cataloging, and classification of Army scientific and technical information and reports. The Central Air Documents Office, sponsored by the Navy and Air Force at Wright-Patterson Air Force Base, provides a central documentation activity to receive, organize, and disseminate scientific and technical reports and documents of general air interest through the medium of the air technical index.

Personnel and Planning

Plans are under way to increase that portion of the research and development effort which is directed toward improving the effectiveness of the individual in warfare: his mental, physical, and spiritual well-being; his relationships to complex mechanisms of modern war; and his responses to a variety of environmental conditions. Closely related are studies concerned with types of personal equipment, weather and climate, terrain, water supply, and various other aspects of the sciences of geophysics and geography which must be taken into consideration in a global concept of war.

Human Resources

A forward step in the field of military research in "human engineering" was the provision by the military departments during the past year of agencies to integrate programs and conduct research in this field. The Air Force established, within its Headquarters Directorate of Research and Development, a Human Resources Division to integrate all Air Force programs in human resources and similar agencies in the Air Training Command, the Air University, and the Headquarters Command. In the Navy, an office was established within the Office of the Chief of Naval Operations to coordinate human resources development, and several programs of the Office of Naval Research were combined under a Human Resources Division. Recognition is also being given to the "human factor" through the operational research programs of the Air Force and the Army conducted by the RAND Corporation and the Operations Research Office, respectively.

A cooperative attack made by the three departments on the problems of selection and classification of manpower resulted in the development of a psychological test, known as the Armed Forces Qualification Test, to be used to screen all new recruits beginning in January 1950. This test will replace the separate screening tests now used by the three services. Specific recommendations were made also for the development of a single device for use by all services in testing the vision of personnel under conditions of mass mobilization. Current programs under way include research on career guidance, character guidance, methods of leadership evaluation, the engineering of machines for human use, and the adaptability of man to the machines he must operate.

The Medical Sciences

Jet propulsion and atomic weapons are representative of new elements in modern warfare which have created special problems for military medicine. Current research includes such varied subjects as aeromedicine, rescue and survival in emergencies, effects of environment on health and efficiency, infectious diseases and preventive medicine, and general medicine and surgery.

In aeromedicine, studies are being made to determine the potential physical forces involved in crashes and the physiological tolerances of the human body to extremes in acceleration and deceleration; to elucidate and protect against the forces to which aviators are subjected in high-speed, high-altitude flight, as well as to solve problems of escape from high-speed aircraft; and of minimization of physiological effects of noise and vibration. Among the special studies to improve the operational efficiency of fliers are investigations of the visual function, including depth perception, color vision, night vision, and facility in reading signals and instrument panels.

Research relevant to radiation injury includes: the value of administering concentrated white blood cells in radiation injury and the effect of pituitary extracts on local radiation injury. The discovery of a dye which makes possible differentiation between living and dead or dying cells is a research tool of great value in studies of radiation injury and wound healing.

In the field of infectious diseases and preventive medicine, investigations are continuing on the use, limitations, and appraisal of new drugs and vaccines and on better methods for the prevention and control of localized infections. In general medicine, studies are being made on such diverse problems as the use of bacterial enzyzmes in the treatment of certain medical and surgical conditions; control of pain by new chemical agents; causes of anesthetic deaths; and the role of hemoglobin of transfused cells in regeneration of recipient red blood cells.

Equipment and Materials

Army and Navy research on equipment has been directed toward reduction in weight and size and simplification of parts supply in a wide variety of items to permit air and ship transportability of large units. Research is being directed toward the improvement of performance of shipboard materiel under severe operational or environmental conditions and toward the development of improved packaging techniques, materials, and materials-handling equipment for both airborne and shipborne cargo-handling operations. The Army is seeking aids to improve mobility of ground forces.

The Army is also giving constant attention to the im-

Left, top to bottom: USAF F-80—TODAY'S NUMBER ONE FIGHTER—Jet propulsion—special problems for military medicine. PARATROOPERS IN WINTER OPERATIONS—Constant attention is given to improvement of clothing and equipment. THE JB-2 PULSE JET GUIDED MISSILE—New countermeasure techniques are being developed. ICE SHIP EMERGES FROM THE STORM—Research—to improve shipboard materiel under severe weather conditions.

provement of clothing and personal equipment for all environmental conditions; while current food research is applied to specific rations and ration components with the objective of lengthening their shelf-life and improving their utility and acceptability under emotional and environmental stress.

Geophysics and Geography

Significant advances have been made in the past year, both by service laboratories and by contractors, in the military applications of geophysics and geography.

Geography.—Geographic programs presently are directed toward increasing knowledge of world-wide regional environments in terms of military planning. To this end, the Army Office of Operational Research is beginning an analysis of the estimated performance of Army equipment under extremes of environmental conditions likely to be encountered. Increased Navy support in this field emphasizes improved geographic research techniques for regional, coastal, and island studies and economic, political, and human geography. Advances have been made in the techniques of aerial photo interpretation for use in planning air, sea, amphibious, and ground operations.

Map-making equipment.—To provide for rapid compilation and reproduction of maps in quantities, the Corps of Engineers of the Department of the Army is developing highly mobile map-making equipment that is adaptable to air transportation.

Soil mechanics.—A lesson learned from World War II was that a highly mechanized force could be slowed down or even stopped by mud. Problems of temporary stabilization of soils and related problems of temporary road construction are being studied. Closely related to continuing studies on soil trafficability is the new program of the Corps of Engineers designed to broaden scientific knowledge of snow, ice, and permafrost of land areas. Basic problems incidental to planned compilation of regional military soil maps have been solved, and work started on the prediction of soil trafficability on the basis of weather.

Meteorology.—Atmospheric studies for the improvement of weather forecasting, safe operation of aircraft, and the design and guidance of missiles were carried on by all three military departments. A better theoretical understanding of atmospheric processes has resulted from the Air Force-Navy-sponsored studies of the general circulation of the atmosphere and the formation, growth, and motion of tropical hurricanes. Studies relating to the physics of clouds will permit assessment of the possibilities of limited weather control. On the basis of better understanding of the structure of thunderstorms, pilots will be able to plan less hazardous flights through thunderstorm areas.

Oceanography.—Studies of importance to undersea and amphibious warfare are emphasized in the Navy oceanographic research program. These include: Studies of distribution of the temperatures and salinity of the oceans, of the relation of waves and surf to wind and coastal configuration, of the water movements in bays and harbors, and of sea ice, as well as oceonographic and hydrographic surveys which have increased our knowledge of ocean basins.

Aerodynamics and Hydrodynamics.—The major emphasis in these fields has been directed toward improving the performance, flying qualities, and hydrodynamic characteristics of military aircraft. The accelerated advance of aviation into the supersonic-speed regime, however, imposes the requirement for testing facilities with capabilities greater than existing facilities. The proposed Unitary Plan for Wind Tunnels and the Air Engineering Development Center, for which enabling legislation is now before Congress, will, if authorized, provide these vitally needed facilities.

Aircraft propulsion.—Since the war, attention has been concentrated on gas-turbine, ram-jet, pulse-jet, and rocket engines, as well as on nuclear propulsion for aircraft.

The objective of current propeller research and development is to achieve maximum advantage of the versatility promised by turbo-prop propulsion. Special attention is being given to new blade designs.

Aircraft.—Adequate research and development programs are under way to provide aircraft to meet every purpose, including light, medium, and heavy bombers; carrier-based attack aircraft; penetration, all-weather, and interceptor fighters for fleet and land support; land-based and seaplane patrol aircraft; reconnaissance aircraft; anti-submarine aircraft; helicopters and fixed-wing aircraft for liaison and rescue; trainers; and cargo aircraft.

Fuels and lubricants.—In the field of fuels and liquid rocket propellants, investigation of pure hydrocarbons is continuing to determine their suitability and applicability as jet fuels. High-energy propellants, such as liquid oxygen-liquid hydrogen have been successfully utilized in small-scale rocket engines.

Guided Missiles

Military characteristics have been prescribed for four basic types of guided missiles.

(1) Air-to-air for the protection of bomber forces and for use by fighters engaged in combating invading air forces.

(2) Surface-to-air for use against invading air forces and ultimately against enemy missiles.

(3) Air-to-surface or air-to-subsurface for increasing the effectiveness of our bomber striking forces and for tactical ground support operations.

(4) Surface-to-surface or surface-to-subsurface for use in both short-range and long-range operations.

During 1949 a steady rate of advance was maintained in all phases of the guided missiles program. Specific accomplishments were the demonstration of the feasibility of operating multistage missiles; the development of high-altitude research, liquid-fueled rockets, and successful flight tests of ram-jet engines at both sea-level and high altitude.

An important guided missile facility addition was the Kochel wind tunnel at the Naval Ordnance Laboratory, White Oak, Md., which will aid considerably in the solution of problems encountered under supersonic conditions. Work on the recently authorized Joint Long Range Proving Ground at Cocoa, Fla., is under way.

Unconventional Warfare

Biological, radiological, and toxic chemical warfare are usually considered together because they are all aspects of unconventional warfare and because they have many characteristics in common. Incendiaries and smoke screens, used with such effectiveness in World War II, are subject to further improvement. Biological and radiological agents as weapons are as yet unproven in warfare, and the evidence indicates that other nations have experimented with new and untried forms of toxic chemical warfare. It is not possible, therefore, to disregard the potentialities in these fields, and the United States must be adequately equipped for this type of warfare.

SYMINGTON OF NSRB

(Continued from Page 11)

of a hot one. Meanwhile, the President emphasized that responsibilities of NSRB plus its work load warranted appointment of a vice chairman to aid Symington.

Under the reorganization plan, Symington, as chairman, became actual "director" of the board, composed of Secretary Acheson, Snyder, Johnson, Chapman, Brannan, Sawyer and Tobin. These names indicate plainly that the board would be in reality a war cabinet representing the State, Treasury, Defense, Interior, Agriculture, Commerce and Labor of the Federal Government.

There are many who say that the success of Mr. Symington will depend on how far he is supported by President Truman and the extent of cooperation received from the established departments. Both are essentials to success in government. However, Truman's admiration of Symington is a well established fact in Washington circles. This alone goes a long way when it comes to an administrator dealing with fellow department heads. In addition, NSRB's chairman posseses the quick mind of an experienced administrator and a born salesman. His Air Force days proved this point to many Washingtonians concerned with "feathering nests" from budget standpoints.

After three weeks in office, Symington spoke only in broadast outlines of his plans.

"This job is necessarily advisory to the President, not an operational affair. Otherwise we would have to have many more than our 250 employees. Essentially, our recommendations will be concerned with allocations of power—who is to do what in event of war.

"After we get our staff in shape, we must reappraise the plans already made to see if they are practicable and fit existing and prospective situations. Then there must be a tremendous 'selling' job within the Government and among the people, especially in business, industry and in labor organizations, so that all will know what is needed of them in event of war."

Symington, classified as an outstanding diplomat and discreet public official, refuses to reflect or comment on his predecessors, Arthur M. Hill, transportation executive, and Dr. John R. Steelman, assistant to the Chief Executive. He prefers to look ahead, forgetting the personalities of the past.

Business and government experience alone point out Symington as a "natural" for the post of guiding NSRB. Coming from wealth and adding to his bank account rather than living off it, at least before coming to Washington, Symington like so few is not harried by the necessity of living on a government salary.

Unlike his predecesors, Mr. Symington has the ability to "get along" with people and make a favorable impression. Some say it is a rare quality in Washington. The only time Symington seemed to break with his tradition is with hard-fisted Louis Johnson, Secretary of Defense. Consequently, as Air Force Secretary, he carried his fight to the Congress and the public winning an "airman's battle" and the love of those in the Pentagon who see American defense through rose colored glasses of the "wild blue yonder."

As the functional head of NSRB he will meet problems that are tremendous and intricate. A high priority objective will be to secure a definite "war plan" from the Joint Chiefs of Staff enabling him to plan the maximums and minimums for civilian and industrial mobilization. His experience as a Pentagonian will serve him well because he talks the language of those occupying key spots in the Department of Defense.

Likewise, Symington is concerned with the civil defense program which, unfortunately, has been declared by too many officials as a step-child of the other. With a program languishing and only a few Governors, upon whom the responsibility has been placed for civilian defense, doing anything because of the lack of a plan, Mr. Symington promised to have something concrete drafted by September 1.

The drafting of legislaiton required in event of emergency is another problem for Chairman Symington. NSRB has made several detailed drafts for freezing of wages and prices and rents. The carry-through of this program to the Congress is a major project for Symington.

NSRB Chairman Symington is one of the few who believe that tentative drafts should be always under revision for immediate introduction in event of war. There is no doubt he will pursue this policy because his Board will be holding the "bag" come an emergency and Mr. Symington is no man to champion an empty one, especially when he is held responsible.

Among Mr. Symington's "pluses" is his desire to avoid the too-often utilization of over classification of government plans and documents. Under his predecessor's operating procedure, the draft for mobilization was tinged "confidential" and consequently not even cabinet members were afforded the opportunity to witness planning procedures. Upon taking office, or shortly thereafter, Mr. Symington indicated his move of circulating the latest mobilization draft at the cabinet level. He aimed to have an approved copy by July 1, 1950.

HONORABLE W. STUART SYMINGTON
Assistant Secretary of War for Air

Chairman Symington is not flustered by the size, complexities, or recognized difficulties of his new post. Experience has built his confidence to an all-time high in Government responsibilities. He knows what has to be done; he is assured of the President's support. To Symington, that is all that is required.

AFCA REVIEWS THE NEWS

Defense "Predictions"

Washingtonians who devote a substantial amount of time viewing moves in and about Pentagon circles are eyeing Admiral Forrest Sherman, Navy Chief of Operations, as the man to succeed General Omar Bradley as Chairman of the Joint Chiefs of Staff . . . when and if the General moves up to a new "command post" in the Western Nations organization. Sherman, in addition to being senior to his fellow chief-staff members, has earned a reputation overnight for cooperation while still "gunning" his own branch.

* * *

WAC Reserve

Women without prior military service may now enlist in the Women's Army Corps Reserve section of the Organized Reserve Corps. More than 4,000 women veterans in the ORC are now receiving training within Reserve units. However, no ORC units are composed solely of WAC's. Reservists are eligible to receive retirement credits and reserve duty training pay when authorized.

INDUSTRIAL CHEMICALS

The facilities listed below and the special techniques involved have been developed through forty years of experience in the manufacture of industrial chemicals. Over a hundred regular products and many more research products have been made available through these process facilities.

TYPES OF SPECIAL FACILITIES

Chlorination . . . Hydrogenation . . . Esterification . . . Phosgenation . . . Sulfydration . . . Metallic Chlorination . . . Hydrochlorination . . . Fluorination

The Hooker Company is a basic manufacturer of chlorine, caustic soda, muriatic acid, chlorobenzols, sodium sulfhydrate and many other chemicals of large commercial volume. Your inquiries for production information are invited. Write for a copy of Bulletin 100, General Products List.

•

Hooker Electrochemical Co.

40 Forty-seventh Street, Niagara Falls, N. Y.

New York, N. Y. • Wilmington, Calif.
Tacoma, Wash.

HOOKER CHEMICALS ®

The Industrial Rubber Goods Co.

ST. JOSEPH, MICHIGAN

★

MANUFACTURING SPECIALISTS
OF MOLDED AND EXTRUDED
MECHANICAL RUBBER GOODS

★

The Industrial Rubber Goods Co.

ST. JOSEPH, MICHIGAN

PHYSICS IN THE USSR

By Col. Donald H. Hale, CmlC

Chemical Division, Headquarters European Command

World War II demonstrated the connection between a broad and comprehensive research program in physics and a nation's ability to wage war. It is generally conceded today that a nation's defensive forces, if they are to progress, are dependent upon the basic research work of the physical scientists.

It is interesting, therefore, to make an estimate of the amount of fundamental research being done in the physical sciences by the various nations. A rough estimate of the amount of such work can be had by comparing the number of scientific papers abstracted in the various abstracting journals. This has been done for certain fields of physics. The fields of research chosen were those that are basic to atomic warfare, radar, guided missiles, jet propulsion and aerodynamics.

The study was made of the papers abstracted in the January 1950 issue of Physics Abstracts (Section A). Physics Abstracts is published, in London, by the Institution of Electrical Engineers. It is widely used by physicists of all nationalities. In the January 1950 issue, 644 papers were abstracted. All of these papers report research work in some phase of fundamental physical research. The Abstractors consulted 603 scientific journals. These comprise all the outstanding journals, in all languages, reporting physical research. Of the 603 journals consulted 17 are published in Russia and 17 in the various satellite nations.

The table below lists the research fields studied and the number of papers published in the scientific journals of the United States, Russia and those nations generally conceded to be in the Russian orbit of influence.

Field of Research	Number of Papers Published			
	Total	US	Soviet	Satellite
Electric Discharges	14	0	6	2
X-rays	5	2	0	0
Cathode Rays	21	8	0	0
Discharge Tubes—Radiation Counters	16	8	0	0
Cosmic Rays	22	12	0	0
Electrodynamics	18	6	2	0
Atomic Structure-Isotopes	21	18	0	0
Radioactivity	39	28	2	0
Nuclear Reactions	32	23	0	0
Atom and Molecular Beams— Mesons and Neutrons	20	16	0	0
Physics Fundamentals	30	18	1	0
Optics-Radiation Spectra	108	51	6	1
Electric Conduction-Currents	26	16	10	0
Mechanics of Fluids	10	5	0	0
TOTALS	380	191	27	3

The above table shows that of the 380 papers consulted better than one-half reported research work done in the United States and only about 10 percent work done in Russia and the satellite nations. The relative percentages might vary from another month, but the variation would not be great. It is believed that the above table is a fair estimate of the amount of work reported month after month.

One may be certain that none of the work reported in the various scientific journals is classified. However, the military application of physical research is based upon pure research and the more pure research done, in any nation, the broader the basis for military applications by that nation. Also, it is probably true that there is some correlation between the amount of pure research done, in any nation, and the development of new weapons and the improvement of existing weapons. The brief study reported in the above table makes it appear that the United States is well to the forefront in research in those fields that have possible military applications.

FINANCIAL STATEMENT

As required by the Constitution and By-laws, Article V, Section 2, the books of the Association have been audited by a Certified Public Accountant, and this report has been submitted to the Executive Committee. The books were found in balance.

I submit a statement of the income and expenses of the Association for the period ending April 30, 1950.

Income

Memberships	$18,193.33
Advertising	8,829.53
Subscriptions	523.08
History sales	195.70
Plaque sales	7.50
Meetings	17.00
Miscellaneous	339.82
Investment income	157.37
Profit on sale of investments	73.48
TOTAL INCOME	$28,336.81

Expenses

Awards	$ 737.71
Promotional expenses	570.23
Publications:	
Journal	5,993.95
News	882.50
Directory	1,296.33
History	174.00
Editorial: Advertising com.	2,792.00
General and Office:	
Salaries	8,429.03
Office expenses	2,614.97
Taxes	302.92
Meetings	1,226.38
Miscellaneous	804.00
TOTAL EXPENSES	$25,824.02
EXCESS OF INCOME OVER EXPENSES	$ 2,512.79

Respectfully submitted,

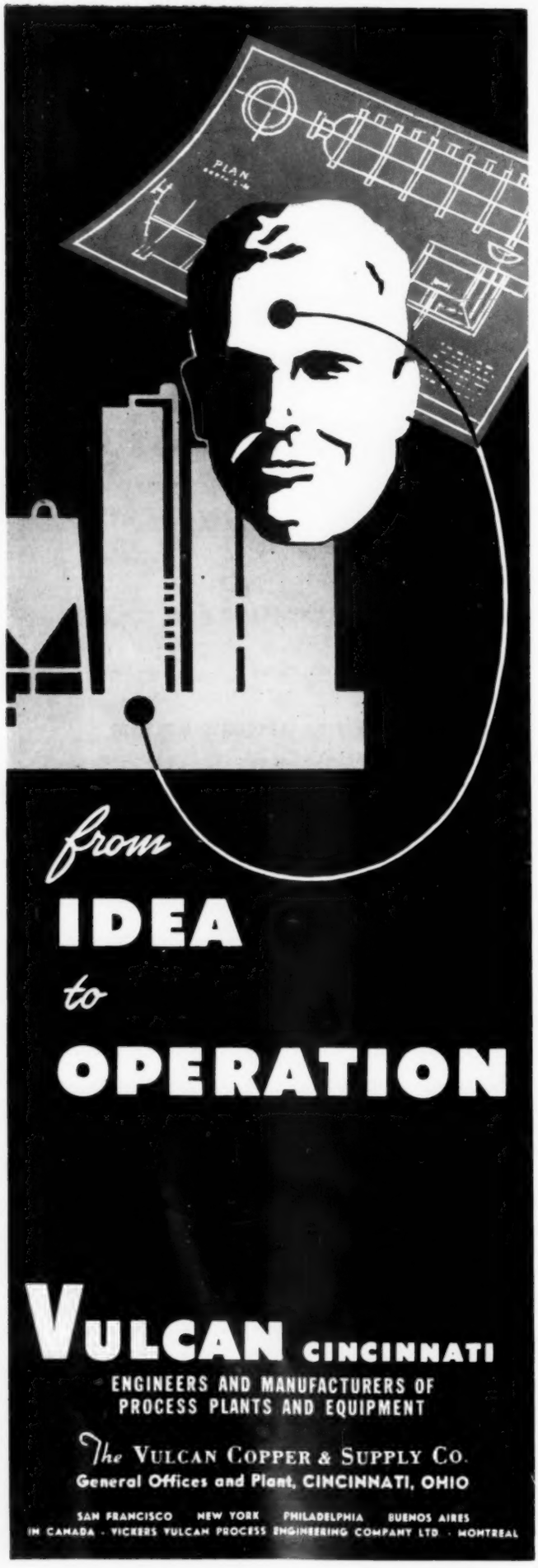
OSMUND L. VARELA,
Deputy Chairman Finance

29 May 1950

"PITTSBURGH"
COAL-CHEMICALS

ACTIVATED CARBON
ALKYL METHYL PYRIDINIUM CHLORIDE
ALPHA NAPHTHYLTHIOUREA
ALPHANITRONAPHTHALENE
BENZOL—MOTOR, NITRATION, PURE
CREOSOTE
CRESOL—META PARA, ORTHO
2,4-DICHLOROPHENOXYACETIC ACID
DINITRO-ORTHOCRESOL
NAPHTHA, HEAVY SOLVENT
NAPHTHALENE
PARA AMINO PHENYL MERCURIC ACETATE
PHENOL
PHTHALIC ANHYDRIDE
PICOLINE—ALPHA, BETA AND GAMMA
PIPE LINE ENAMEL
PYRIDINE—MEDICINAL AND INDUSTRIAL
SODIUM CYANIDE
SODIUM THIOCYANATE
SULPHATE OF AMMONIA
SULPHURIC ACID—60°, 66° AND OLEUM
TAR ACID OIL DISINFECTANTS
TAR—CRUDE AND ROAD
TOLUOL—NITRATION AND COMMERCIAL
XYLOL—10°, 5° AND 3°

PITTSBURGH
COKE & CHEMICAL CO.
GRANT BUILDING PITTSBURGH 19, PA.



MEMBERSHIP ACTIVITIES

PURDUE UNIVERSITY CHAPTER—AFCA

By Cadet 2nd Lt. James M. Karns

The Purdue University chapter of the Armed Forces Chemical Association in Lafayette, Ind., is the first student chapter in the country. On November 28, the charter authorizing this student group was drawn up and signed. The officer largely responsible for the organization was Lt. Col. Levin B. Cottingham.

Colonel Cottingham, his assistant, Sgt. James E. Johnson, and a group of advanced Chemical Corps ROTC students looked over the aims of the Armed Forces Chemical Association and found that they would fit very nicely with the Chemical Corps program at Purdue.

During the past year the local chapter brought into the association twelve new members from the Junior class of Chemical Corps ROTC student body. From this new class the 1950-51 chapter officers were elected. Officers are: Cadet 2nd Lt. James Margedant, President; Lieutenants J. W. Little, 1st Vice President; R. C. Schuman, 2nd Vice President; and F. C. Meine, Secretary-Treasurer.

Of particular importance to the juniors of the unit have been talks concerning the ROTC summer camp at the Army Chemical Center as given by the graduating seniors.

In keeping with one of the duties of the Association, the chapter has done splendid work in promoting the close friendship of its members. The big mark on the social calendar each year is the annual stag party for the members and instructors of the unit.

Cadet Captain Harold Shear, first president of Purdue's chapter, will enter the Regular Army this month after graduating with a BS in Chemical Engineering.

The first vice president, Cadet Lt. Col. Gene McMahan, had the distinctive honor of being the recipient of the AFCA Medal at Purdue in 1949.

Eight members of the graduating class receive Reserve Commissions this summer in the Chemical Corps. They are: F. R. Baker, E. L. Culbertson, J. W. Hanley, M. D. Lummis, W. G. McMahan, C. L. Nix, H. A. Swain, and N. W. Todd. Cadet C. R. Knight will receive his Reserve Commission in the Medical Service Corps.

Bottom Row, left to right: Cadet Captain W. Knight, Cadet 2nd Lt. J. A. Margedant, Cadet 1st Lt. J. L. Nix, Cadet Captain W. Culberston, Cadet Captain F. R. Baker, Cadet Captain N. W. Todd, Cadet Captain J. W. Hanley, Cadet 2nd Lt. F. Miene.
Top Row, left to right: Cadet Capt. M. Lummis, Cadet Lt. Col. W. G. McMann, Cadet 2nd Lt. W. Heitz, Cadet Captain H. Swain, Cadet 2nd Lt. Schuman, Cadet 2nd Lt. J. M. Karns, Cadet 2nd Lt. J. Little.

AFCA AWARDS

VIRGINIA POLYTECHNIC INSTITUTE

Cadet James H. Taylor, Winchester, Va., receives AFCA's Medal & Scroll at the annual Awards Ceremony, VPI, on May 25. General F. E. Williford, USA (Ret) is making the presentation.

TEXAS A & M

Major Arent O. Wiken congratulates Cadet First Sergeant Bill T. Thompson after presenting him with the Armed Forces Chemical Association Medal.

PURDUE UNIVERSITY

Richard V. McDowell was presented with the Armed Forces Chemical Association Medal & Scroll on June 1 by Dr. Frederick L. Hovde, President of Purdue University, before more than 1,500 spectators. The occasion was the First Combined Corps Day held at Purdue when more than 2,200 members of the Army, Air Force and Naval ROTC Units at the university participated in the dress parade and review preceding the Awards ceremony.

TEAM WORK PAYS OFF

The tremendous progress made by Pemco in the development of low temperature Porcelain Enamel and in glass colors suggests the possibility of Pemco engineers working with you in the solution of many finishing problems.

These men . . . trained in the science of inorganic chemicals are ever ready to work with you as a team.

They have at their command the facilities of the finest laboratory in the Ceramic Industry.

Write us and tell us your problems. We'll work with you until an answer — satisfactory to you is reached.

PEMCO CORPORATION

BALTIMORE MARYLAND

Porcelain enamel — Chemicals — colors — Glass colors — Pottery colors — glazes — bodies.

ERNST BISCHOFF COMPANY INC.

- Pharmaceuticals
- Biologicals
- Industrial Plastics
- Textile Chemicals

The services of our research and production departments are available to those who have special problems. We invite your inquiry regarding "hard to get" chemicals.

New York Office:
50 East 42nd Street
New York 17, New York

Plant:
Ivoryton, Conn.

Bischoff

PRODUCTS OF PROVEN MERIT AND INDIVIDUALITY

Stauffer
CHEMICALS
SINCE 1885

A DEPENDABLE SOURCE OF SUPPLY FOR OVER 60 YEARS

•

STAUFFER CHEMICAL CO.

420 Lexington Avenue
New York 17, N. Y.
221 North LaSalle Street
Chicago 1, Illinois
424 Ohio Bldg., Akron 8, Ohio
824 Wilshire Boulevard
Los Angeles 14, Calif.
636 California Street
San Francisco 8, Calif.
North Portland, Oregon
Apopka, Florida
Houston 2, Texas
Weslaco, Texas

I SAW MY COUNTRY SOVIETIZED

(Continued from Page 17)

of the victims had been buried alive, hundreds of the bodies so mutilated that they could not be identified.

Their greatest crime against the Baltic nations the Soviets committed on the eve of the recent war, in the night of June 14, 1941. Thousands of homes were invaded by the NKVD-men in all the three countries, who ordered tens of thousands of men, women and children out of their beds, gave them a quarter of an hour to pack a few belongings and took them on motor trucks to the railway station. No social class was spared: among the deported were politicians, businessmen, industrialists, civil servants, representatives of the free professions, farmers and workers, indeed, the percentage of workers was largest. Age was no safeguard: infants of a few weeks and old people of eighty could be seen on the ominous trucks. The majority of the deported had never engaged in any political activity—but they had been known as more than usually intelligent, independent and full of initiative, in a word, they were all of a type that is not tolerated under the Soviets.

Long trains of cattle wagons with barred windows were waiting at the stations for these unfortunates. The husbands were separated from their wives and children, up to 80 prisoners, some still wearing their nightshirts, were crammed into wagons which had bunks for perhaps 10 to 15 people only. No food, no water was provided, no toilet accommodations, except a metal tube protruding from a hole in the floor. Pregnant women gave premature birth to children in this filth, some people went mad, old people and infants died from terror and exhaustion. Their corpses were not removed. The trains stood at the stations for days while their loads were being completed and the relatives of the arrested, whom the NKVD soldiers were beating back, stood crying in the distance in the hope to hand some food and drink to their dear ones or at least to catch a glimpse of them. At last the trains set off with their wretched human freight whom they deported to the wastes of Siberia. No news has since been heard of the men who are said to have been taken to copper and salt mines in the neighborhood of the Caspian Sea, whereas the women and children, if still alive, are dragging on an existence of indescribable misery in the kolkhoses of the Kirov and Novosibirsk regions.

Incidentally, the same June 14 marked an end of the hypocritical game the Bolsheviks were playing with the Baltic armies: almost all their senior officers, who were still at liberty, were also deported on this day and the men scattered in little groups among Russian detachments. The fate of the remaining officers was likewise sealed: an order for their arrest on July 29 was subsequently found in the NKVD archives and only the outbreak of the war cancelled, or rather postponed, its execution.

After the deportation the endurance of the Baltic nations snapped. No one dared sleep at his house any longer, people spent every night at a different house in order to elude the captors, a ring of the door bell after dark, which had been feared even hitherto as a possible herald of a visit from the NKVD, now could send people into hysterics. As it proved later, these fears were well-founded, for the deportation of the best part of all the three Baltic nations was scheduled to have been accomplished by the end of 1941. The woods of which the Baltic area is rich, filled with fugitives from the Red terror, who formed groups desperately resisting the Soviet soldiery sent out to capture them. Their first arms they had to take from these soldiers with their bare hands but in a few weeks their numbers and arms had increased to such an extent that

the Reds no longer dared venture into the woods. At the end of their tether and resources, these guerrillas welcomed the arrival of the Germans, little knowing that not a few of them were destined to languish in the Nazi concentration camps in the years to come.

* * *

There is one thing beside terror and economic misery that makes the Soviet regime unbearable to a Westerner, and that is its abysmal hypocrisy. All its cruelties and injustices are accompanied by an unceasing flow of propaganda calling them benefits and the recipients the happiest people in the world. Frankness is not cultivated under Soviet rule and I am therefore unable to say whether the Russians believe without reservation what their rulers tell them; to the Baltic peoples, however, to have to listen daily to the Soviet lies was an excruciating and nauseous ordeal. Worse still, one was not allowed to listen passively, the regime demanded that one should constantly protest one's delight and sing the praises of one's happy life, and the NKVD was always at one's side carefully watching that this demand was obeyed. The Red terror does not only torture the body, it also racks the spirit. The life of the citizens is so arranged that they have no leisure and no privacy: after their work for the "Socialist fatherland" is done, they have to attend numerous compulsory meetings, lectures and courses on political subjects, and often to speak at them, too, and when night comes they have no quiet room to which they can retire to forget their troubles, they are not at liberty to talk freely with their families, for where several families are living in one flat, there may be spies. In the end one is filled with an immense disgust which is wellnigh physical, the very air seems thick with lies and unfit to breathe.

* * *

If Estonia was, however, unwillingly, prepared to collaborate with the Soviet Union in 1939 and 1940, then after a year of Red terror there was not an honest Estonian who was not a mortal enemy of Communism. In 1944, when the Red flood was once more rolling towards their homeland, they fought the oncoming Soviets with a bitterness and hatred which helped every man to take on ten and more Russians. It was their misfortune that they had to fight this just fight on the side of the Germans who, like the Russians before them, had invaded our country, plundered it of everything that the Soviets had not been able to take with them or to destroy on their retreat in 1941, pressed our young men into their slavery, confined our best people in their concentration camps, and who in the end abandoned us to our fate.

When it became known that Estonia would once more fall into the hands of the Soviets, the population had only one idea—flight. By train and car, on horse-carts and on foot, carrying a few bundles, leading their children by the hand, the people hurried to the seashore in the hope of finding a boat which could take them to neutral Sweden. The boats were pitifully few, two occupants had requisitioned all the craft available and the building of new boats was forbidden under penalty of death. Still, 25,000 actually reached Sweden in yachts, motor-launches, decrepit fishing and rowing boats packed to capacity. Those who saw that this way was closed to them embarked on the German vessels willing to take them and about 50,000 managed to reach the zones of the Western Allies. They lived in DP camps, half-starving, without a home, without work, without a future, but staunch in their resolve never again to submit to the yoke of Bolshevism. Yet these thousands were only a drop in the sea—on their arrival the Soviets found the seashore packed with people, hoping against hope that some boat might return to fetch

(Continued on Page 50)

Industrial Chemicals
supplied by
HARSHAW

- Electroplating Salts, Anodes and Processes.
- Driers and Metal Soaps.
- Ceramic Opacifiers, Colors and Frit.
- Fluorides.
- Glycerine.
- Preformed Catalysts and Catalytic Chemicals for Petroleum and other Organic Processes.
- Synthetic Optical Crystals.
- Agricultural Chemicals.
- Fungicides.
- Chemical Commodities.

This 32-page book alphabetically lists all chemicals available through Harshaw, relates the history of the Company and describes Harshaw's major activities. Write for a copy.

THE HARSHAW CHEMICAL CO.
1945 East 97th Street, Cleveland 6, Ohio
BRANCHES IN PRINCIPAL CITIES

SOVIETIZED

(Continued from Page 39)

them. Red tanks crushed whole caravans of carts and pedestrians headed west. Indeed, it is no exaggeration to say that the whole population of Estonia would have emigrated to escape Bolshevism if it had had the chance, and the same applies to the Latvians and Lithuanians. The lot of those who had to remain behind has justified their worst fears: the regime we experienced in 1940-41 was lenient as compared to the present variety.

* * *

Since the war a large proportion of Eastern Europe has undergone a fate similar to that of the Baltic countries. The Baltic countries were a kind of laboratory experiment: it was there the Soviets tried out their methods for world conquest. The Baltic states are, and will always remain the typical example. A remarkable thing about the Kremlin is its inflexible consistency; the Bolsheviks are no improvisers, they work according to plan, at home as well as abroad. And their plan for the conquest of foreign countries shows three stages: 1. Treaties of friendship and trade agreements, bases, underground propaganda, disorganization; 2. Puppet Governments, crushing of opposition, nationalization; 3. Absorption and the introduction of the Soviet system. The case of the Baltic countries is an ominous precedent and allows the prediction of the future of any country which has suffered the great calamity of falling under Soviet influence or occupation.

Most of the countries at present in the Soviet grip are in the second stage, their absorption is only a question of time. The problem now is, which country's turn will be next? And how long can the Western democracies consider themselves secure if Soviet expansion is not checked?

But there is also a moral side to the question. Not only the Soviet outrages since the war, but also the shameless attack on the Baltic countries, their first victims, carried out in cynical disdain of valid treaties, cannot be dismissed as a mere escapade. The recent war, which was waged against injustice and violence, will be waged in vain if the barefaced aggression against the small, industrious and peaceful Baltic countries will be allowed to go unrequited.

1900-1950

A HALF CENTURY

OF

CHEMICAL PROGRESS

Chicago Coliseum

September 5-9, 1950

Exhibitors will use over 250 booths, all on one level, to show the latest in chemical ideas, materials, products, processes and equipment. Other features:

Industrial Movies

Trail Blazers of Chemistry

Art Exhibit by Chemists

The 118th national meeting of the ACS will also be held in Chicago September 3-8, 1950

For available space or information, write:

J. J. Doheny, Manager

NATIONAL CHEMICAL EXPOSITION

86 East Randolph Street **Chicago, Illinois**

INDEX TO ADVERTISERS

Columbia Chemicals ..... Back cover
Dow Chemical Corp. ..... Inside back cover
Dryden Rubber Division 3
Ernest Bischoff Co. 38
General Chemical Division ..... Inside front cover
Harshaw Chemical Co. 39
Hooker Electrochemical Co. 34
Industrial Rubber Goods Co. 34
Niagara Alkali Co. 7
National Chemical Exposition 40
Pittsburgh Coke and Chemical Co. 35
Pemco Corp. 37
Professional Directory 40
Stauffer Chemical Co. 38
Vulcan Copper and Supply Co. 36

FOR THE RECORD

I interned with the U. S. Public Health Service in 1937 for which I received pay. Does the time spent in that service count for retirement points under PL 810? I held a commission in the Reserve during that period.

If you held a commission in a Service Reserve in 1937 this time may be counted for qualifying service under Public Law 810. However, if your commission was in Public Health Reserve, the answer is no.

PROFESSIONAL DIRECTORY

S. N. CUMMINGS

799 Greenwich St. New York, N. Y.

Coal Tar Colors for All Purposes

Tel. Chelsea 3-1687

Cable Address—Pylamco

HARRY A. KUHN

Consultant

Chemist and Toxicologist

Park Lane Building
2025 I Street N.W.
Washington 6, D. C.
Telephone REpublic 1400
STerling 6338

out of the briny deep!

Metal furniture, lawn mowers, and materials for aircraft out of the briny deep? Drugs, ink, paper products, fumigants and photographic plates from ocean water?

Indeed, these products and many more owe their origin to elements extracted from the brine of the sea and from the earth's subterranean brines . . . bromine, iodine and magnesium.

The first of these, bromine, appears in a host of products which we use daily. For years this basic chemical has been produced for industry by The Dow Chemical Company. Bromine and bromine compounds are utilized in many fields including textiles, petroleum, solvents, fumigation, cosmetics, pharmaceuticals and a variety of others.

In addition to its medicinal use, iodine has many industrial applications, among them dyes and photographic film.

Magnesium, the lightest of all structural metals, is likewise extracted from the inexhaustible waters of the sea through a special process originated by Dow. Proved invaluable for over a decade in aircraft construction, magnesium today contributes strength without dead weight to many varied industrial and consumer applications.

Bromine, iodine, and magnesium are but three of over six hundred products manufactured by Dow in the interests of "chemicals indispensable to industry and agriculture."

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Atlanta • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle
Dow Chemical of Canada, Limited, Toronto, Canada

DOW

CHEMICALS

INDISPENSABLE TO INDUSTRY AND AGRICULTURE

EVERY REFINEMENT IN MANUFACTURING AND HANDLING FOR SAFEGUARDING YOUR PRODUCT QUALITY

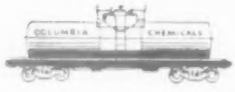
COLUMBIA Caustic Soda

Meticulous care in production and shipping makes Columbia Caustic Soda a high grade, dependable product . . . ideal for your most exacting use.

Columbia's patented purification process is a unique method which converts diaphragm cell electrolytic liquor to Caustic Soda of exceptional purity.

This purity is maintained throughout loading, transporting, and delivery . . . your assurance that Columbia Caustic Soda will always meet your requirements. Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth at Bellefield, Pittsburgh 13, Pennsylvania.

COLUMBIA *Pioneer in Better Transportation and Handling of Liquid Caustic Soda*



Fusion welded car, eliminates rivets as a possible source of leaks and metallic contamination.

Tank car insulation prevents freezing except in the most extreme cases.

Patented lining in tank cars and barges prevents metallic pickup in transit.

Improved tank car heating equipment facilitates unloading when severe weather conditions are encountered.

Patented proportioning and cooling system simplifies unloading of 73%.

COLUMBIA CAUSTIC SODA IS SUPPLIED IN THE FOLLOWING FORMS:

Liquid 73% or 50%, Solid, Flake.

COLUMBIA CHEMICALS

CHICAGO • MINNEAPOLIS • BOSTON
NEW YORK • CINCINNATI

ST. LOUIS • CHARLOTTE • PITTSBURGH
CLEVELAND • PHILADELPHIA

PAINT • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY